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Skeptical Inquirer

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The Case Against Psychic Detectives

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Editor's Note

The Case Against Psychic Detectives

Many years ago I wrote a four-page guide for newspaper editors on how to cover psychics and the paranormal. I devoted several paragraphs to the "rebirth of credulous acceptance" concerning "psychic" body finding and crime solving and how to do a more skeptical job covering such claims. Such "psychic detectives" thrive, I pointed out, because, among other things, they make a large number of vague, very ambiguous statements that they subsequently self-select (ignoring most of the others) and reinterpret self-servingly in ways that may seem to fit the facts. Our own minds aid in making these matches. Media promulgate the misconceptions further by uncritically reporting only seeming hits and ignoring (usually not even inquiring about) all the frequent misses.

The advice is even more timely today. The modern infotainment industry loves this stuff even more than newspapers did in the past. Entertainment television shows shamelessly promote so-called psychics. They never go back to look at the claimants' abundant misses. I confess I find such psychic detectives (and those who promote them) especially repugnant. They play on the vulnerabilities and emotions of victims' families and on the natural willingness of police to listen to all who claim to have information.

But do they really have any special abilities? That is an empirical matter, and it's right up our line. In this issue we present two different types of investigations whose results justify the collective title "The Case Against Psychic Detectives."

In the first, Benjamin Radford conducts an in-depth investigation into one particular case, selected not by Radford but by an insistent podcast host who challenged Radford to investigate the "best case" for psychic detectives. The 1982 case involves the murder of cheerleader Amie Hoffman in Hanover Township, New Jersey, and the work of local psychic Nancy Weber. Weber, asserted many viewers of a TV show about the case, solved the crime and was "100% correct." Radford is SI's managing editor and also has been newly designated a Committee for Skeptical Inquiry research fellow for his investigative prowess. He spent nine months on the case, interviewing the police and examining written records. What he finds casts a considerably different light on the matter and yields valuable insights into the psychological processes by which we are led to believe in—and cling to belief in—things that are verifiably untrue.

In the second, "Psychic Defective: Sylvia Browne's History of Failure," Ryan Shaffer and Agatha Jadwiszczok systematically examine *all* the cases of probably *the* most visible (certainly the most promoted and self-promoted) of all psychic detectives, Sylvia Browne. (Browne and Montel Williams went on a well-publicized, high-priced lecture tour together in late 2009, and she has been a frequent guest on *Larry King Live* and *The Montel Williams Show*, appearances we have critically examined before.) Shaffer, a doctoral candidate in history at SUNY–Stony Brook, and Jadwiszczok, who has been researching Sylvia Browne for the last three years, examined all 115 criminal cases for which transcripts of Browne's readings are available. They developed criteria for correct and wrong predictions. Browne contends her accuracy rate is "somewhere between 87 and 90 percent." Our authors' investigations reveal something just slightly different: in the 115 cases, Browne was correct . . . zero times.

Could there be a greater gap between assertion and reality?

—Kendrick Frazier

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"…promotes science and scientific inquiry, critical thinking, science education, and the use of reason in examining important issues."

Sixteen Notable Figures in Science and Skepticism Elected CSI Fellows

The Committee for Skeptical Inquiry, publisher of the SKEPTICAL INQUIRER, announces the election of fifteen new fellows chosen for "distinguished achievement in science and skepticism."

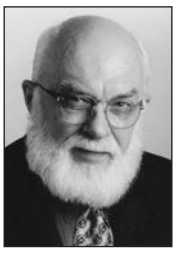
All have made major contributions to science and reason, critical inquiry, and public education. They include notable figures in a wide variety of scientific and scholarly fields and prominent writers and investigators.

CSI promotes scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims. Fellows are elected periodically by CSI's Executive Council. Candidates are nominated by other fellows or by members of the Executive Council.

This is the largest number of new fellows elected at one time since the original founding of the committee (then CSICOP, the Committee for the Scientific Investigation of Claims of the Paranormal) in 1976.

In addition to these fifteen new fellows, CSI is very pleased to announce that James "The Amazing" Randi has again been named a fellow of the Committee and has accepted. Randi was, of course, one of the original founders of the organization back in 1976. For various legal and personal reasons, Randi felt obligated to resign from CSICOP during the height of the lawsuits brought against Randi and CSICOP in the early 1990s by Uri Geller and Eldon Byrd.

"We are ecstatic to be able to count Randi as a CSI fellow once again," said CSI Executive Director Barry Karr.



"We are pleased to add so many distinguished scholars, scientists, authors, and science popularizers to the already stellar list of CSI fellows," said Karr. "They will no doubt prove to be sterling assets to the CSI brain trust as we move forward in the next century defending science, reason, and common sense against the purveyors of superstition, quackery, and irrationality."

The approximately forty original founding fellows included CSI founder Paul Kurtz, Martin Gardner, Randi, Carl Sagan, Isaac Asimov, Sidney Hook, Ray Hyman, and B.F. Skinner. Present CSI fellows include Susan Blackmore, Richard Dawkins, Daniel C. Dennett, Ann Druyan, Lawrence M. Krauss, Elizabeth Loftus, Marvin Minsky, Steven Pinker, Eugenie Scott, Neil de Grasse Tyson, E.O. Wilson, and Nobel laureates Murray Gell-Mann, Sir Harry Kroto, Leon Lederman, and Steven Weinberg. A full list of fellows appears on the inside front cover of this and every SI and on CSI's Web site at http://csicop.org/about/csi_fellows_and_staff.

Here are the new fellows:

Kimball Atwood IV, physician, author, Newton, Massachusetts.

Atwood is a practicing anesthesiologist. He had been interested in pseudoscience for years but became active only after a conference at his own hospital advocated Therapeutic Touch, Guided Imagery, and other implausible practices as effective treatments for cancer. Shortly thereafter he became a member of the Massachusetts Special Commission on Complementary and Alternative Medical Practitioners, and in 2002 wrote its Minority Report opposing licensure for naturopaths. He has written extensively on implausible medical claims, including contributions to the SKEPTICAL INQUIRER, and has provided expert opinion to the Massachusetts Board of Registration in Medicine. Atwood is a contributor to the Science-Based Medicine blog and an associate editor of the *Scientific Review of Alternative Medicine*. He is on the boards of Citizens for Responsible Care and Research (CIRCARE) and the Institute for Science in Medicine. He is particularly concerned with implausible claims being promoted, tacitly or otherwise, by medical schools and government and with the ethics of human trials of such claims.

Robert T. Carroll, writer, emeritus professor of philosophy, Sacramento City College.

Carroll taught in his college's philosophy department for three decades (1977–2007) and served several years as chairman. He is creator of The Skeptic's Dictionary Web site, which has six hundred entries on topics ranging from acupuncture to zombies, as well as numerous essays, book reviews, and a blog (Skeptimedia) where he comments on media coverage of the paranormal, supernatural, and pseudoscience. His book *The Skeptic's Dictionary: A Collection of Strange Beliefs, Amusing Deceptions, and Dangerous Delusions* was published in 2003 by John Wiley and Sons and has been translated into several languages. His textbook *Becoming a Critical Thinker* was first published in 2000, with a second edition in 2005.

K.C. Cole, science writer, author, professor, University of Southern California's Annenberg School of Journalism.

A longtime writer for the *Los Angeles Times* and contributor to publications including *The New York Times, The New Yorker, The Washington Post,* and *Esquire* (among many others), Cole has also been an editor at *Newsday* and *Discover* magazine. She has taught at UCLA, Yale, and Wesleyan. Her books include the best-selling *The Universe and the Teacup: The Mathematics of Truth and Beauty*, *First You Build a Cloud . . . and Other Reflections on Physics as a Way of Life*, *The Hole in the Universe*, and *Mind Over Matter: Conversations with the Cosmos*. Her most recent book is *Something Incredibly Wonderful Happens: Frank Oppenheimer and the World He Made Up*—a memoir and biography of the physicist (and skeptic) who created San Francisco's Exploratorium and who first stimulated her love of science.

Christopher C. French, professor, Department of Psychology, and head of the Anomalistic Psychology Research Unit, Goldsmiths College, University of London.

French is editor-in-chief of *The Skeptic*, the U.K.'s quarterly skeptic magazine (published by CSI), and a noted investigator of parapsychological and paranormal claims. He is a fellow of the British Psychological Society. He is also a member of the Scientific Advisory Board of the

British False Memory Society and the Advisory Board of the Center for Inquiry/London. He has published more than one hundred articles and chapters on a wide range of topics in psychology. His main current area of research is the psychology of paranormal beliefs and anomalous experiences. He is one of London's most active skeptics, making frequent appearances on TV and radio and writing a regular column for the *Guardian*'s online science pages.

Luigi Garlaschelli, chemist, Università di Pavia (Italy), and research fellow of CICAP, the Italian skeptic's group.

Garlaschelli has done major investigative work on claims of miracles. His duplication in the lab of the blood of St. Januarius, published in *Nature* in 1991, made worldwide news. He has investigated and duplicated weeping Madonnas and has investigated other religious relics, including the Shroud of Turin (on which he wrote a book and in October 2009 revealed a major experiment during CICAP's 20th Anniversary Congress; see SI, January/February 2010). He is also expected to soon publish an investigation on the supposed miracles of Lourdes. Apart from miracles, Garlaschelli has investigated, experimented, and challenged homeopaths and many other pseudoscientific claims. He learned from the late Indian skeptic Premanand how to be a fakir and, during lectures and TV shows, he frequently performs fakir stunts. He has also conducted investigations, many reported in SI, on spook hills, the Italian sword in the stone, petrified bodies, haunted houses, and many psychics, both in the lab and out.

Maryanne Garry, professor, School of Psychology, Victoria University of Wellington, New Zealand.

Garry has conducted extensive research into memory, especially false memories. She is interested in how we can come to believe we saw or did something that we never did and how we decide whether our memories are true or false. She has testified in court on the accuracy of eyewitness testimony and "recovered" memories of childhood sexual abuse. She is president of the Society for Applied Research in Memory and Cognition. Colleagues consider her an innovative experimenter and outstanding teacher. After earning her doctorate at the University of Connecticut, she worked closely with prominent memory expert (and CSI fellow) Elizabeth Loftus. They published many papers together, beginning with a demonstration showing that imagining a hypothetical childhood experience causes subjects to become more confident the experience was real. Garry and her students have since advanced our understanding of social influences on memory, showing that placebos, aggression, and both true and fake photos can produce false memories.

Harriet Hall, retired family physician, writer, Puyallup, Washington.

Hall (The SkepDoc) writes prolifically about pseudoscience and questionable medical practices. Many of her articles have appeared in recent years in the SKEPTICAL INQUIRER, for which she is a contributing editor. She also is a weekly contributor to the Science-Based Medicine blog and has a new regular column in *O, The Oprah Magazine* titled "The Health Inspector." Her presentation to CSI's The Skeptic's Toolbox in August 2009 was "Tooth Fairy Science and Other Pitfalls: Applying Rigorous Science to Messy Medicine." She received her MD from the University of Washington, did her internship in the Air Force (the second female ever to do so), and was the first female graduate of the Air Force family practice residency at Eglin Air Force Base. During a long career as an Air Force physician, she held various positions from flight surgeon to director of Base Medical Services and did everything from delivering babies to taking the controls of a B-52. She retired with the rank of colonel. She recently published *Women Aren't Supposed to Fly: The Memoirs of a Female Flight Surgeon*.

Stuart D. Jordan, NASA astrophysicist emeritus, science advisor to Center for Inquiry/Office of Public Policy, Washington, DC.

Jordan, a Rhodes scholar, received his PhD in physics and astrophysics from the University of Colorado and specialized in solar and stellar atmospheres. He joined NASA's Goddard Space Flight Center in 1968 and served at different times as solar branch head, solar program office chief (NASA HQ), project scientist, international astrophysics monograph series coordinator, as well as research astrophysicist and senior staff scientist. In recent years he has become interested in science and public policy and became science advisor to CFI's Office of Public Policy, advising the organization on science-policy matters. He wrote its position paper "Global Climate Change Triggered by Global Warming," which became a much-commented-upon two-article package in the SKEPTICAL INQUIRER, and he recently spearheaded its Credibility Project investigation, also reported on in SI.

Kenneth R. Miller, professor of biology, Brown University.

Miller has been among the world's leading (and arguably most articulate and effective) defenders of Darwinian evolution against the attacks of creationism (and its most recent incarnation, intelligent design). He is considered a magnificent teacher, public educator, and role model for how to communicate to the public about science and pseudoscience. His testimony in the famous 2005 Dover trial is widely credited with playing a crucial role in overturning efforts to present intelligent design theory as a "scientific" alternative to natural selection in classrooms. In 2008 he received the AAAS "Award for Public Understanding of Science and Technology" for "his sustained efforts and excellence in communicating evolutionary science." In 2009 he was presented with the Gregor Mendel Medal by Villanova University. His books include *Only a Theory: Evolution and the Battle for America's Soul* and *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution*. He is coauthor, with Joseph S. Levine, of a series of high school biology textbooks used by millions of students nationwide.

Jan Willem Nienhuys, mathematician, Waalre, the Netherlands.

Nienhuys is a noted investigator of paranormal and pseudoscientific claims. A mathematician who formerly taught at the Eindhoven Uni-

versity of Technology, as well as a science writer and translator, he is also secretary of Stichting Skepsis, the Dutch skeptics group; editor of its publication, *Skepter*; and Web site editor for the Dutch Association Against Quackery. He is coauthor, with Marcel Hulspas, of a 488-page Dutch encyclopedia of pseudoscience and wrote a book on the history and culture of China with his wife, Cheng Shan-Hwei. Nienhuys has participated in numerous investigations, often in collaboration with others, and has spoken frequently at skeptic conferences. He was involved in investigations of the "Mars Effect," e.g., see Benski et al., *The Mars Effect: A French Test of over 1,000 Sports Champions* (Prometheus 1996).

Steven Novella, assistant professor of neurology, Yale University School of Medicine.

Novella is president of the New England Skeptical Society and host of its popular weekly science podcast, *The Skeptics' Guide to the Universe*. His NeuroLogicaBlog covers news and issues in neuroscience, skepticism, and critical thinking. He is also founder and executive editor of the Science-Based Medicine Web site (www.sciencebasedmedicine.org), which examines in the light of science and skepticism unscientific and pseudoscientific healthcare claims that have infiltrated medicine. His article "The Anti-Vaccination Movement" led a three-article cover special on myths and misconceptions about vaccinations and autism in the November/December 2007 SKEPTICAL INQUIRER.

Jay M. Pasachoff, Field Memorial Professor of Astronomy and director of the Hopkins Observatory, Williams College.

Pasachoff, a solar astronomer, has gone on fifty expeditions to observe solar eclipses. He is author or coauthor of many books and textbooks in physics and astronomy, including *The Cosmos: Astronomy for the New Millennium*, *A Field Guide to the Stars and Planets*, *Physics for Scientists and Engineers*, *Contemporary Astronomy*, *Invitation to Physics*, and *Astronomy: From the Earth to the Universe*. He writes frequently for popular periodicals on science and astronomy. In recent years he has been teaching a course titled "Science and Pseudoscience" at Williams College examining alternative medicine, the misleading use of data, scholar hoaxes, public portrayals of science, science and religion, and other related topics. He is a SKEPTICAL INQUIRER consulting editor.

Massimo Pigliucci, professor of philosophy, City University of New York–Lehman College.

Pigliucci's research focuses on the structure of evolutionary theory, the relationship between science and philosophy, and the relationship between science and religion. He has doctoral degrees in genetics, botany, and philosophy of science. He has published over one hundred technical papers and several books, including *Denying Evolution: Creationism, Scientism, and the Nature of Science* and his forthcoming *Nonsense on Stilts: How to Tell Science from Bunk*. He is well known to SI readers for his column "Thinking About Science." Pigliucci received the Dobzhansky Prize from the Society for the Study of Evolution and was elected a fellow of the AAAS "for fundamental studies of genotype by environment interactions and for public defense of evolutionary biology from pseudoscientific attack." He is also editor-in-chief of *Philosophy and Theory in Biology* and associate editor of *Biology and Philosophy*.

Philip Plait, astronomer, lecturer, and writer.

Plait created the Bad Astronomy blog (now at http://blogs.discovermagazine.com/badastronomy), clarifying distortions and misunderstandings of astronomy-related topics. His books include *Death from the Skies: These Are the Ways the World Will End* and *Bad Astronomy: Misconceptions and Misuses Revealed from Astrology to the Moon Landing 'Hoax.'* Before becoming an astronomy writer and educator, Plait worked ten years on the Hubble Space Telescope. His term as president of the James Randi Educational Foundation ended December 31, 2009, and he is now at work on a science-related television project.

Seth Shostak, senior astronomer, SETI Institute, Mountain View, California.

For much of his career, Shostak conducted radio astronomy research on galaxies. He has become one of the most eloquent, effective, and energetic debunkers of pseudoscience. He hosts the SETI Institute's hour-long radio program *Are We Alone?*, featuring the latest scientific research in cosmology, physics, genetics, paleontology, evolutionary biology, and astrobiology. Once a month, with "Skeptic Check," the program takes a critical look at UFOs, astrology, etc. Shostak received the Klumpke-Roberts Award of the Astronomical Society of the Pacific in 2004 in recognition of his outstanding contributions to the public understanding and appreciation of astronomy. He has authored three hundred articles, and his books include *Confessions of an Alien Hunter* (2009), *Life in the Universe* (2001), and *Sharing the Universe* (1998).

CFI SHARE Program Raises Money for Haiti

In response to the Jan. 12 earthquake in Haiti, the CFI's Skeptics and Humanists Aid and Relief Effort (S.H.A.R.E.) raised $47,000 in the first day; donations are still desperately needed.

To read this story, visit www.csicop.org/SIExtras.

Study Reveals Gingko Biloba Ineffective for Memory

Published in the December 2009 *Journal of the American Medical Association* are the results of the largest and longest trial to date of Gingko biloba for the improvement of cognitive function and treatment, prevention, or reduction of the effects of Alzheimer's disease or other dementia. The results of the study are completely negative.

The study was a direct comparison of Gingko biloba at 120 mg twice a day versus placebo—a double blind, randomized, multi-center trial involving 3,019 subjects aged seventy-two to ninety-six, followed for a median of 6.1 years. Subjects were followed with standardized tests of cognitive function.

The results are easy to report: every measure showed no difference between Gingko biloba and placebo. There was no difference in cognitive function, risk of developing dementia, rate of progression of dementia, or normal cognitive decline with aging.

Gingko biloba has been used for centuries as a medical herb, and the most popular claim made for its use is to enhance cognitive function. The justification for this claim has always been thin; Gingko biloba has a mild blood-thinning effect. It was therefore claimed that the herbal drug would enhance blood flow to the brain and improve brain function.

However, this is not a plausible mechanism. The brain exquisitely regulates its own blood flow, and suboptimal perfusion results in a widening of the blood vessels to increase flow. This automatic regulation would not be enhanced by mild blood thinning in a healthy individual.

More recent studies have found that Gingko biloba has some antioxidant effects. However, antioxidants as a class have not been found effective for improving cognitive function or any other clinical outcome. So this too lacks plausibility.

It was also found that Gingko biloba can reduce amyloid aggregation. Amyloid plaques build up in the neurons of patients with Alzheimer's disease, so this is a plausible mechanism for slowing the progression of some forms of dementia. However, we now know this does not translate into a measurable clinical effect.

We can generalize from what we've learned about Ginkgo biloba from this study that historical use of an herbal drug is not sufficient evidence for its effectiveness.

Preliminary, small, or poorly designed studies are unreliable, and they often result in false positives. Only large definitive trials are reliable.

Finding a potential mechanism for a drug, herbal or otherwise, is not a sufficient basis for a clinical claim; clinical trials with actual people are needed to support such claims. Further, if researchers look for potential mechanisms to explain a putative action of a drug or supplement, it is not surprising when they find some since drugs typically have many biochemical actions in the body. There is also likely confirmation bias and the file-drawer effect at work—favoring the publishing of interesting and positive studies.

In the end, all the ancient wisdom, small studies, and putative mechanisms meant nothing. They were all trumped by a large and impeccably designed study that shows Gingko biloba is of no measurable benefit to cognitive function.

—*Steven Novella*

Steven Novella, MD, is an assistant professor of neurology at Yale University School of Medicine. He is the host of the weekly science podcast The Skeptics' Guide to the Universe*, author of the NeuroLogica blog, and president of The New England Skeptical Society.*

African Albinos Murdered for Witchcraft

Westerners may think of witchcraft as a quaint relic of the Middle Ages, but belief in witches is common in many countries, and black magic is considered part of everyday life. In Africa, witch doctors are consulted not only to heal diseases but also to place (or remove) magic curses and bring luck.

In the East African countries of Tanzania and Burundi, at least fifty albinos (people with a rare genetic disorder that leaves the skin, hair, and eyes without pigment) were murdered for their body parts last year, according to a recent Red Cross report titled "Through Albino Eyes." An albino's arms, fingers, genitals, ears, and blood are highly prized on the black market, believed to bestow magical powers. In November 2009, four people were arrested and sentenced to death in northern Tanzania for killing an albino man to harvest his body parts. A month earlier, albino hunters beheaded a ten-year-old boy and hacked off his leg.

In a continent of dark-skinned Africans, albinos especially stand out and are often the subject of fear, hatred, and ridicule. The lack of skin pigment also makes them vulnerable to sunburn and skin cancer. The Red Cross report notes that "thousands of albinos across a huge swathe of countryside . . . are unable to move freely to trade, study or cultivate fields for fear of albino hunters."

The belief and practice of using body parts for magical ritual or benefit is called *muti*. Muti hunting was featured in the 2009 South African science-fiction film *District 9*, in which the hero's body parts were sought by a local warlord who believed that the limbs would give him magical powers. Muti murders are particularly brutal; the perpetrators use knives and machetes to cut and hack off limbs, breasts, and other body parts from their living victims. Many of the albinos are beheaded, their heads carefully collected and preserved as gruesome good luck charms or for use in rituals.

While many suspects have been arrested for murdering albinos, so far the

persons who commissioned the killings (or offered huge sums for human body parts) have not been arrested. Some believe that police, politicians, and judges are hesitant to pursue the criminals because belief in witchcraft and muti is so widespread. The Red Cross report claims that up to 10,000 African albinos live in hiding, fearful of being attacked for their body parts.

—Benjamin Radford

Benjamin Radford wrote about body parts theft in the May 1999 issue of the SKEPTICAL INQUIRER.

A Friend Remembers Norm Levitt, Mathematician and Foe of Pseudoscience

Norman Levitt, a professor of mathematics at Rutgers University and, for the last couple of decades, a major figure in combating pseudoscience and pseudoknowledge, died of a heart ailment on October 24, 2009, at the age of sixty-six. He was born in the Bronx and attended P.S. 114 and the Bronx High School of Science, from which he graduated in 1960. He then attended Harvard College, graduating at the tender age of nineteen in just three years.

In the early 1990s, he asked Paul Gross to work with him on combating pseudoscience, and their resulting book, *Higher Superstition: The Academic Left and Its Quarrels with Science*, appeared in 1994. He later wrote many articles relating to standards of science, what he curmudgeonly thought of as charlatans pushing pseudoscience and metascience, and public knowledge and understanding of science. His later books included *The Flight from Science and Reason* (1997) and *Prometheus Bedeviled: Science and the Contradictions of Contemporary Culture* (1999). He worked with New York University physicist Alan Sokal on Sokal's presentation of a gobbledygook paper to the postmodern humanities journal *Social Text*, which published the paper in spite of what Levitt and many others thought were flags that indicated it was a joke. The result was (and is) widely interpreted, especially in scientific circles, as a black mark on postmodernism.

I first met Norm Levitt around 1951 when I was in third grade and he was in second, and I am honored to have known him for well over fifty years. We lived in the West Bronx, where there have recently been celebrations and museum exhibits on the hundredth birthday of the Grand Concourse, during its Golden Age. Norm's mother, Molly, was best friend and mah-jong buddy of the mother of the new boy in my building, Ronnie Saiet, and Norm and Ronnie's parents socialized. The Levitts lived just a couple of blocks away, on Walton Avenue south of 167th Street, so Norm spent a lot of time with Ronnie, Ira Blumenthal, and me, playing the role of d'Artagnan to our

Nigerian Witch Hunter Sues CFI Activist to Quell Criticism

In May 2009, the Center for Inquiry (CFI) launched an anti-superstition campaign to highlight and combat attacks against alleged child witches throughout the African continent. Now witch hunter Helen Ukpabio, head of the Liberty Gospel Church in Nigeria and a frequent target of criticism by CFI, has filed a lawsuit in Nigerian federal court against Leo Igwe, CFI's representative in Nigeria.

The events were set into motion on July 29 when a mob of about 150 members from Ukpabio's Liberty Gospel Church attacked Igwe and others during a "Child Rights and Witchcraft" event in Calabar, Nigeria. Police finally broke up the mob and arrested one person. Igwe's bag, phone, camera, and a copy of his planned speech were stolen, and his eyeglasses were smashed in the assault.

The complaint filed by Ukpabio essentially alleges religious discrimination on the part of Igwe, who has been a tireless vocal critic of Ukpabio's claims that many of Nigeria's children and women are witches. The suit seeks an injunction to prevent Igwe and other humanist groups from holding seminars or workshops aimed at raising awareness about the dangers associated with belief in witchcraft.

Ukpabio is clearly attempting to erect a legal barrier against humanist groups who might criticize her group for their practices.

"The persecution of alleged child witches underscores the importance of our anti-superstition campaign in Africa," said Norm R. Allen Jr., executive director of African Americans for Humanism and CFI's Transnational Programs. "Superstition has dire consequences to individuals and societies and often contributes greatly to gross human rights abuses. Those who continue to view superstition as benign must think again."

For more about CFI's anti-superstition campaign and Ukpabio's lawsuit, visit CFI's Web site: www.centerforinquiry.net/newsroom. For an anthropologist's explanation of why witchcraft is so enduring and widespread, see page 51.

SI Extra

This is a developing story. For updates on Igwe's case, see **www.csicop.org/SIExtras.**

IGNITE THE ADVENTURE

The New Future Fund

"Knowledge is an unending adventure at the edge of uncertainty."

– Jacob Bronowski, scientific polymath

For a more rational tomorrow … and the future of **Skeptical Inquirer** please support the new phase of the Center for Inquiry New Future Fund.

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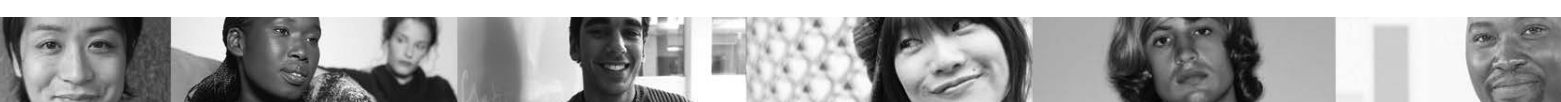
Toni Van Pelt, Paul Kurtz, and Ron Lindsay (standing); Lawrence Krauss, David Helfland, and Nobel Laureate Paul Boyer (seated) introduced the Declaration in Defense of Science and Secularism at the inaugural press conference of the Center for Inquiry/Office of Public Policy in Washington, DC.

Local leaders, campus activists, and students from around the world came together at CFI's Summer Session.

Latin American and U.S. skeptical activists met at the CFI-sponsored First Iberoamerican Conference on Critical Thinking in Peru.

The new Naturalism Research Project will more than double our library facilities and create a collegial setting for scholarly dialogue and research.



Athos, Porthos, and Aramis. (Wikipedia, which I consulted to check the spelling of the Musketeers' names, informs me that the story of d'Artagnan was continued by Dumas in two more novels, *Twenty Years After* and *The Vicomte de Bragelonne*, together known as the *d'Artagnan Romances*. D'Artagnan was the main character, which makes him a suitable analogy for this memorial comment.)

In the 1950s in the Bronx, we boys were free and on our own a lot, much less programmed than today's young people. Those of us intellectually inclined were lucky to attend the Bronx High School of Science, where our mathematical abilities were especially fostered. Of course, Harvard wasn't bad in mathematics either.

One of my high school influences was Martin Gardner's book *Fads and Fallacies in the Name of Science*, published by Dover in 1957 when Norm and I were in high school. In 2003, I started teaching a seminar at Williams College on the subject, and one of the dozen weekly topics was Alan Sokal's hoax. I was delighted to find that Norm was an expert on the topic, and I invited him to lead that week's seminar. My family and I had the pleasure of his visits on three such occasions, including one at which we also met his wife, Renée. My students certainly benefited from the readings he supplied and the discussions that he led.

I am honored to have been a friend of Norman Levitt, and I am delighted that our friendship was professionally renewed during the last few years. Condolences were passed along to his widow, Renée; their children, Steven and Oradee, Heather and Jason; and their grandchildren. They have asked that any memorial contributions be made to the National Center for Science Education, 420 40th Street, Suite 2, Oakland, CA 94609.

A memorial service was held in Manhattan on October 31 with a secular rabbi presiding and, by particular request, no mention of god; Norm had been cremated. The half dozen speakers, aside from me and one cousin, were mathematicians, and the importance of his research in mathematics was stressed. We learned of his early promise and the wall of report cards that his mother had proudly displayed in their Bronx apartment. We learned of his wide range of knowledge and interests, including New York art galleries and Civil War battles.

The death of Norm Levitt is a loss for his family, his friends, the world of mathematics, and all those interested in the standards of science.

—Jay M. Pasachoff

Jay M. Pasachoff is director of the Hopkins Observatory at Williams College, Williamstown, Massachusetts.

The Struggle Against Pseudoscience

I want to return to the really important issue of the struggle against pseudoscience. Even if the Russian Academy of Sciences and the Russian Academy of Medical Sciences do their duty to protect science in Russia from pseudoscientists, charlatans, and swindlers by shifting this matter to a Commission to Combat Pseudoscience, the problem as a whole will not be solved. It can only be solved if all scientists and educated lay people are uncompromising toward obscurantism and fight against it.

—Vitaly L. Ginzburg, Russian Nobel laureate physicist who died in Moscow November 8, 2009, at the age of ninety-three. From his Skeptical Inquirer *article "Demagogues Against Scientific Expertise," January/February 2005.*

See Ginzburg, Premanand obituaries on page 62.

Skeptic's Police Blotter

The disgraced South Korean cloning scientist **Hwang Woo-suk** was found guilty by a court in Seoul, South Korea, on October 26, 2009, of embezzling from his stem cell research fund and illegally buying human embryos. The court also ruled that Hwang had partially fabricated the results of his research and gave him a two-year suspended sentence provided he stay out of trouble with the law for the next three years. Hwang had become a national hero in 2004 after claiming to be the first to successfully clone human stem cells. He had an equally quick fall from grace once the accusations that he fabricated some of that research emerged.

* * *

Richard Heene was sentenced to ninety days in jail by a court in Fort Collins, Colorado, on December 23, 2009, for carrying out the notorious "balloon boy" hoax on October 15 (see News and Comment, SI, January/February 2010). Larimer County District Judge Stephen Schapanski ordered Heene to begin a thirty-day jail sentence in January and serve the remaining sixty days under work release. Heene's wife, Mayumi, was sentenced to twenty days in jail for her role. "This, in simple terms, was an elaborate hoax that was devised by Mr. and Mrs. Heene," the judge said. Heene declared he was sorry, especially to the rescue workers who responded to the couple's false report that the runaway balloon was carrying their six-year-old son. The stunt was concocted to gain attention for a possible reality TV show. The court forbade the Heenes from earning any money from the incident for four years.

Entertainment, Fakery, and Ambiguity: Examining New York's 'Fortune Telling Law'

RYAN SHAFFER

On October 9, 2009, Tiffany Evans was arrested at the Smith Haven Mall in Lake Grove, New York, for fraudulent accosting, attempted grand larceny, and three counts of fortune telling. As I read the story in the newspaper, I was surprised that someone in New York was charged with "fortune telling." After all, psychics are prevalent in New York, with storefront businesses and advertisements in many newspapers. I wondered how someone could be charged with violating a law while so many businesses offering similar services operate in the open.

Interested in finding further details, I contacted the Fourth Precinct Police in Suffolk County, New York, where Evans was arrested to find the statute she was charged with violating. I was told that the so-called "fortune telling law" was a "class B misdemeanor" in violation of New York State Penal Law §165.35. The law states:

> A person is guilty of fortune telling when, for a fee or compensation which he directly or indirectly solicits or receives, he claims or pretends to tell fortunes, or holds himself out as being able, by claimed or pretended use of occult powers, to answer questions or give advice on personal matters or to exorcise, influence or affect evil spirits or curses; except that this section does not apply to a person who engages in the aforedescribed conduct as part of a show or exhibition solely for the purpose of entertainment or amusement.

Ryan Shaffer is a PhD candidate in the Department of History at the State University of New York, Stony Brook. He has an MA in history and a BA in philosophy. His current academic research explores social and political movements.

The "fortune telling law" was clearly written to protect nonskeptical consumers from being taken advantage of by a psychic who charges for a service that has never been demonstrated with blind tests. Yet the law provides a loophole for scam artists to simply call their readings "entertainment." The Suffolk County phonebook has twenty-five listings for "psychic life readings" operating in the area where Evans was arrested. While it is necessary to separate self-proclaimed psychics from magicians and mentalists, it is important to recognize the inherent difference between telling fortunes and mentalism.

Mentalism creates the "illusion of mind reading" through various magician techniques, including cold reading and hot reading. On the other hand, psychics claim to predict the future, sometimes using the same techniques as magicians. Nonetheless, the two are different, as one entertains with mind reading while the other claims to actually look into the future. Besides that inherent difference, we should compare the fortune telling law with another that protects consumers. New York State Penal Law §190.20 concerning "false advertising" does not exempt someone from being punished for making false claims for the purposes of entertainment. The "fortune telling law" should be no different, especially considering the lack of scientific evidence for psychic ability. One who offers a service should not be exempt from the charge of making false claims by simply calling their service "entertainment." A psychic who abuses the trust of his or her clients by offering an unproven service may develop a business relationship to take further advantage of the client.

One who offers a service should not be exempt from the charge of making false claims by simply calling their service "entertainment."

This was true in the Evans case. She

met the victim in the Smith Haven Mall and offered to read the victim's fortune for $25. Evans then told the client she could perform a more detailed reading for $100 more. Subsequently, Evans said the client was cursed and the curse could be lifted for $1,250. The victim paid $600 and was given "a small stone and a plastic bag containing an unknown liquid." During the next meeting, Evans tried to sell the client $550 candles to "remove the negative energy." The unproven $25 service turned into a fraudulent accosting case, which cost the victim more than $1,000. This crime does not account for the emotional dependency a psychic's client may develop with continued meetings even if the psychic does not sell her merchandise. (For more on this, see "Philadelphia Psychics Shut Down, Then Allowed to Reopen," SI, July/August 2007; and "Fortuneteller Allowed at Fair Despite Law," SI, November/December 2004.)

Not all psychics clearly sit on the entertainment or self-proclaimed genuine side. John Edward stars in daily broadcasts of *John Edward's Cross Country* in which he claims to have divine answers to questions for the audience's deceased relatives. Edward was born, raised, and remains a resident on Long Island. He currently tours the United States, giving readings to a paying audience, including three readings booked in the same county where Evans was arrested.[1] As the title of his show implies, filming for his series occurs in different locations around the United States; the 2006 season was recorded in Long Island, Los Angeles, Orlando, and Phoenix.[2] In the title sequence of his WE-TV show, Edward says, "I talk to the dead, I bridge the divide between life and the afterlife." The sequence ends with "How do I know? Because I do." Notably absent is any disclaimer that says the show or claims are mere "entertainment." In fact, Edward says that his "contact" with the dead is like talking on the phone, which is quite a real experience. The desperate people, who cry as Edward cold reads information, are not there for "entertainment" but for answers. Edward explained this to Glenn Beck during his October 27, 2006, appearance on CNN's *Headline News*[3]:

> Beck: You could be a fraud; you could be a miracle worker. I don't know. But would you agree with me that, if someone were in your position and making money, especially off of those that were grieving, they would be, you know, for lack of an another [sic] term, Hell-bound?
>
> Edward: If the person was fraudulent?
>
> Beck: Could you sleep at night knowing that you were not really on the up and up? Do you think somebody . . .
>
> Edward: If I wasn't on the up and up?
>
> Beck: Yes.
>
> Edward: I wouldn't be doing this.
>
> Beck: No, I know that. But what I'm saying is, to use this would be horrible. . .
>
> Edward: Absolutely.
>
> Beck: . . . if you were just an entertainment—so it's not like wrestling, where they were saying, 'No, this is entertainment,' or at first they were saying, 'No, this is real stuff,' but then they later admitted that it was entertainment. You cannot be an entertainer. In your own mind, you can't be. . .
>
> Edward: I don't see myself as being entertaining at all. I see myself as being an educator.
>
> Beck: And it would be wrong of you to just be an entertainer and cloak it in. . .
>
> Edward: I don't see it—I couldn't even define that in terms, you know, especially when you're dealing with grief and loss like that. It's just not—but I'm also very clear to say to people on the flip side of that, I'm not a grief counselor, either. I'm not a therapist.

Edward's inability to define what he does as entertainment or a genuine skill was a revealing moment demonstrating the cautiousness of his claims. At the same time, Edward claimed he was on the "up-and-up" regarding the truthfulness of his claims. Like Evans, Edward lives in New York where it is illegal to "fortune tell" or use "occult powers, to answer questions or give advice on personal matters." The ambiguity of Edward's claims makes it difficult not just for his audience to accept his acts as real but for New York authorities to charge him with violating §165.35. This is not a problem with Edward insomuch as a problem with laws regarding paranormal claims and consumers.

No state should limit speech. However, the state does need to protect its citizens from people who offer services that have never been proven. That is why the government prohibits false advertising and other forms of fraud. Much like someone who sells a "cancer cure" that has not been confirmed by scientific peer-review, the customers of psychics must be equally protected. When a consumer pays for a good or service, he or she expects that good or service to be legitimate. A more carefully written law would prevent someone from offering a psychic reading unless that person had demonstrated he or she has a statistically significant history of predicting the future in controlled conditions. If the "fortune telling law" were written in this manner it would actually protect the consumer from unverified claims made by psychics. On the other hand, those who want entertainment can visit a mentalist or magician rather than a psychic. The ambiguity of the law allows people like John Edward to give readings without ever demonstrating he has the power to "cross over" and answer questions for the desperate. □

Notes

1. John Edward, "Events," available online at www.johnedward.net/seminars.htm (accessed November 14, 2009).

2. "Filming Locations of John Edward Cross Country (2006)," Internet Movie Database, available online at www.imdb.com/title/tt0848540/locations (accessed November 14, 2009).

3. Glenn Beck, "John Edward Shares Insights into His Career," CNN, October 27, 2006, available online at http://transcripts.cnn.com/TRANSCRIPTS/0610/27/gb.01.html (accessed November 14, 2009).

Mann Bites Dog

Why 'Climategate' Was Newsworthy

MARK BOSLOUGH

> When a dog bites a man, that is not news, because it happens so often. But if a man bites a dog, that is news.
>
> —*John D. Bogart*

As evidence for human-caused climate change has mounted, global warming denialists have responded by blaming the messengers. Climate researchers have endured abuse by bloggers, editorial writers, Fox News pundits, and radio talk show hosts who have called them liars and vilified them as frauds. The attacks had become increasingly vile as the past decade, the hottest in human history, came to an end. Angry activists have called for firings and criminal investigations, and some prominent scientists have received physical threats.

Politicians have also gotten into the act. In 2005, Sen. James Inhofe (R-OK) referred to global warming as the "greatest hoax ever perpetrated on the American people." Rep. Joe Barton (R-TX) sent a harassing letter to Michael Mann (now a professor at Pennsylvania State University) and his coauthors of the famous "hockey stick" paleoclimate paper, demanding that they drop everything to provide him with extensive documentation about what he claimed were "methodological flaws and data errors" in their work.

Mark Boslough is a physicist at Sandia National Laboratories and adjunct professor at the University of New Mexico. His work on comet and asteroid impacts has been the subject of many recent TV documentaries and magazine articles. He believes that the impact risk—at its core—is primarily a climate-change risk, and he has turned his attention to climate change as a looming national security threat. The opinions expressed here are his own.

Denialists have attempted to call the science into question by writing articles that include fabricated data. They've improperly graphed data using tricks to hide evidence that contradicts their beliefs. They chronically misrepresent the careful published work of scientists, distorting all logic and meaning in an organized misinformation campaign. To an uncritical media and gullible non-scientists, this ongoing conflict has had the intended effect: it gives the appearance of a scientific controversy and seems to contradict climate researchers who have stated that the scientific debate over the reality of human-caused climate change is over (statements that have been distorted by denialists to imply the ridiculous claim that in *all* respects "the science is settled").

Science, however, has ground rules. Those who don't follow the rules are entitled to their opinions but cannot legitimately claim to be participating in a scientific debate. One rule that must be followed for scientific results to be accepted is that they must be subjected to review and published in a scholarly scientific journal. This is a necessary but insufficient condition (nobody is compelled to accept the conclusions of a paper just because it has been refereed).

This rule is not intended to create a "high priesthood" of scientists or keep others from participating. On the contrary, the culture of science welcomes dissent and encourages contrarians to publish their ideas so they can be subjected to the same scrutiny that is applied to conventional thought.

Peer review is designed to screen out material that is demonstrably wrong, flawed, illogical, or fabricated. Non-specialists are not always able to quickly spot errors in a highly technical piece of work, so experts are recruited to make sure any mistakes are corrected and necessary documentation is provided before the science is published.

The first thing I do when I read an editorial or blog entry is check to see if the supposed science has been published in scientific literature. If not, I don't see why I should bother to read what nobody could be bothered to put through scientific peer review. My reasoning is not that such material is necessarily wrong, but without any scientific review I have no assurance that anyone has checked to see if the equations are right, data sources correctly cited, figures properly attributed, or other workers' conclusions fairly represented.

The global warming debate continues, at least among the science-challenged. The calculation of the mass of CO_2 produced from burning a gallon of gasoline was the subject of a recent vigorous disagreement on the letters page of our local newspaper. This is a question that a decent high school chemistry student should be able to answer, but the highly opinionated letter writers were not able to resolve their differences,

despite the fact that reaction stoichiometry is indisputably settled science.

Likewise, a competent high school physics student understands how the so-called greenhouse effect works and that conservation of energy is also settled science. It has been known for over a hundred years that adding CO_2 to the atmosphere increases its infrared opacity, and when this happens, more energy from sunlight enters Earth's atmosphere than escapes. The atmosphere must heat up on average. There is no scientific debate about this fact, and nobody has ever published a "zero-warming" theory to explain how it could be otherwise.

There is, however, a healthy, open, honest, and active scientific debate in the peer-reviewed scientific literature about the *degree* of climate change. The best scientific estimate of the amount of warming (when CO_2 levels double, which is likely to happen this century) is about 3°C. There are scientists who disagree—some think it's higher and some lower—and have published the basis for their disagreement.

Having lost the scientific debate, denialists have now resorted to hacking into a computer system and stealing private correspondence to distract those who prefer controversy to science. To those of us in the scientific community, it came as no surprise that researchers who had endured personal attacks had trouble rising above the fray. But the harsh tone of some messages by Mann and others caught the attention of the voyeurs who read them precisely because they were in sharp contrast to the way scientists usually speak in public. The attempts to force editors not to publish papers critical of the scientists and suggestions to boycott journals were inappropriate and unsuccessful (journal editors resisted pressure and published the papers anyway). They also were not unusual—certainly not beneath those in the opposite camp. And even though the widely reported "trick" used to "hide the decline" was legitimate (using real temperatures instead of a faulty tree-ring proxy to represent the temperature record), it sounded like something denialists would do, so it was assumed to be crooked.

The very fact that Climategate was newsworthy is evidence that reporters hold scientists to a much higher standard than they hold denialists, even if they won't admit it in their quest to report a controversy. □

American Physical Society Rejects Climate Anti-Science

JOHN R. MASHEY

Like the American Association for the Advancement of Science, the American Geophysical Union, the American Meteorological Society, and most other science societies, the American Physical Society (APS) has a climate change policy based on mainstream science. It is a short statement of only three succinct paragraphs, approved in November 2007. Here is the full text (see www.aps.org/policy/statements/07_1.cfm):

> Emissions of greenhouse gases from human activities are changing the atmosphere in ways that affect the Earth's climate. Greenhouse gases include carbon dioxide as well as methane, nitrous oxide and other gases. They are emitted from fossil fuel combustion and a range of industrial and agricultural processes.
>
> The evidence is incontrovertible: Global warming is occurring. If no mitigating actions are taken, significant disruptions in the Earth's physical and ecological systems, social systems, security and human health are likely to occur. We must reduce emissions of greenhouse gases beginning now.
>
> Because the complexity of the climate makes accurate prediction difficult, the APS urges an enhanced effort to understand the effects of human activity on the Earth's climate, and to provide the technological options for meeting the climate challenge in the near and longer terms. The APS also urges governments, universities, national laboratories and its membership to support policies and actions that will reduce the emission of greenhouse gases.

At the May 2009 APS Council meeting, Robert Austin of Princeton asked the

John R. Mashey is a half-retired Bell Labs/Silicon Valley computer scientist. He is a member of the Association for Computing Machinery, the Institute of Electrical and Electronics Engineers, the American Association for the Advancement of Science, the American Physical Society, and the American Geophysical Union.

APS to review that position, and he proposed a replacement. The APS Council appointed a committee to review the statement and planned to discuss the issue in November 2009 (see www.aps.org/publications/apsnews/200910/climate.cfm). The following are two key paragraphs from the proposal petition:

> Greenhouse gas emissions, such as carbon dioxide, methane, and nitrous oxide, accompany human industrial and agricultural activity. While substantial concern has been expressed that emissions may cause significant climate change, measured or reconstructed temperature records indicate that 20th 21st [*sic*] century changes are neither exceptional nor persistent, and the historical and geological records show many periods warmer than today. In addition, there is an extensive scientific literature that examines beneficial effects of increased levels of carbon dioxide for both plants and animals.
>
> Studies of a variety of natural processes, including ocean cycles and solar variability, indicate that they can account for variations in the Earth's climate on the time scale of decades and centuries. Current climate models appear insufficiently reliable to properly account for natural and anthropogenic contributions to past climate change, much less project future climate.

This proposed new statement would have declared decades of climate research, long-established physics of greenhouse gases, and even the conservation of energy nonexistent. Purposeful effort to obscure knowledge is called *anti-science* or *agnotology*.

In response, the committee simply referenced mainstream climate research summaries—the 2007 IPCC AR4 WG I report and the U.S. National Research Council's 2006 "Surface Temperature Reconstructions of the Last 2,000 Years"—compared them straightforwardly with the Austin proposal, and recommended rejection. The committee did suggest further review of the current version for issues of "clarity and tone," but wrote, "The APS would be well advised not to retract its support of policies and actions that are aimed at reduction in the production of greenhouse gasses." The APS Council then rejected the Austin proposal (see www.physicsfrontline.aps.org/2009/11/10/aps-council-overwhelmingly-rejects-proposal-to-replace-societys-current-climate-change-statement/.)

This proposed new statement would have declared decades of climate research, long-established physics of greenhouse gases, and even the conservation of energy nonexistent.

Austin's proposed plant comment is true but misleading at best, and it is derived from 1990s marketing campaigns by coal companies. Plant growth is limited by the least available factor, an idea first called Liebig's Law of the Minimum. Competent gardeners know it. Like many farm kids, I learned it by age ten. CO_2 *is* modestly helpful where sunlight, water, and other nutrients are optimal, especially sealed, temperature-controlled greenhouses. Water is often the main growth limiter. Higher temperatures not only increase evaporation, but Hadley cell expansion will shift rainfall away from places like the U.S. Southwest. California grows half the fruit and vegetables for the U.S., and we already have water stress. CO_2 *is* especially beneficial to weeds like poison ivy and kudzu, but milder winters also encourage bark beetles that have already ravaged Colorado's lodgepole pines and now thrive in much of British Columbia. Some trees may grow slightly faster with more CO_2, but not if they're already dead.

In support of the proposal, an April–November campaign (letter in *Nature*, ads in newsletters, Internet publicity, and much direct recruiting) had gathered 206 signers—0.45 percent of the 47,000 APS members. Of these, one seemed to be a credible climate scientist. A few others had published a few peer-reviewed climate papers, which often failed to stand up under scrutiny or new data. A few had written books that included outright pseudoscience.

This petition might *seem* like a grassroots groundswell, but it was actually led by a core group connected with think tanks experienced in anti-science disinformation efforts, starting with tobacco companies. The proposal seems less an attempt to convince the APS than to impress the public with a list of PhDs. While a few may have abandoned critical thought, most APS members have not.

For a detailed study of this campaign, see my "Science Bypass: Anti-science Petition to APS from folks with SEPP, George C. Marshall Institute, Heartland, and CATO" at www.desmogblog.com/another-silly-climate-petition-exposed. Signer demographics are quite unrepresentative of the APS in age, gender, politics, geography, organizational concentration, and social networks, indicating extra-science reasons for signing. After the first twenty pages, the remainder of the document is mostly detailed backup material, so do not be daunted by the length. □

John Edward: Spirit Huckster

"Psychic medium" John Edward is reemerging from relative obscurity after his popular television show, *Crossing Over with John Edward*, ended in 2004. He appears on another cable show, gives tours, has a Web site (Infinitequest.com), and generally makes his living claiming to communicate with those who have "crossed over."

I was invited by Central New York Skeptics to join them in Syracuse, New York, for an evening with Edward. (It was held at Mulroy Civic Center on Sunday, October 11, 2009. I was accompanied by CNY Skeptics president Lisa Goodlin, David Harding, and Brian Madigan, all of whom afterward shared insightful observations on what we had witnessed.) The glib Edward—real name John Edward McGee, Jr.—held forth for more than two hours. He began with a joke to the effect that although he is psychic, he nevertheless needed a GPS to get to the site. The highly credulous, adoring crowd found every gag hilarious, every platitude profound, and every lucky guess or shrewd deduction proof of communication with the dead.

Joe Nickell, CSI's senior research fellow, is a former magician and detective. He is author of many books, including Entities *and* Adventures in Paranormal Investigation. *His Web site is at www.joenickell.com.*

Old 'Spirits' in New Bottles

Edward is part of the new breed of spiritualists (like Sylvia Browne and James Van Praagh) who avoid the risky *physical* mediumship of yore. During the heyday

of Spiritualism, magicians such as Houdini and Maskelyne used to catch mediums at their dark-room séance deceptions, such as slate writing, floating spirit trumpets, and full-bodied "materializations." The investigators gave public demonstrations of the trickery. "Do Spirits Return?" a Houdini poster asked. "Houdini says No—and Proves It" (Gibson 1977, 157).

The new "psychic mediums" opt instead for the simpler, safer *mental* mediumship, the supposed production of messages from the Great Beyond. This itself is nothing new, but now instead of the flowery language supposedly channeled from talkative Victorians, we get fragmented bits of data from spirits seeming to have diminished memories and limited speech: "I feel like there's a J- or G-sounding name attached to this" is a typical Edward offering (Nickell 2004).

Styles change even in supposedly talking with the dead. Today's mediums employ the old fortuneteller's technique of "cold reading"—so named because the sensitive has no advance information about the sitter. He artfully fishes for information from the person, often asking a question which, if the answer is yes, will be treated as a "hit" but otherwise will become only part of the lead-up to a statement.

Not surprisingly, Edward has a background in fortunetelling. His mother, he acknowledges, was a "psychic junkie" who threw fortunetelling "house parties." Advised by one visiting clairvoyant that he had "wonderful psychic abilities," Edward began doing card readings for family and friends as a teenager. He progressed to giving readings at so-called

psychic fairs. There he soon learned that names and other "validating information" could sometimes be better fitted to the dead than the living. Edward eventually changed his billing from "psychic" to "psychic medium" (Edward 1999), setting him on the road to financial success.

The Group Approach

Edward's audiences typically find him accurate and convincing. However, a study I made of one television transcript[1] revealed he was actually wrong about as often as not (Nickell 1998). In Syracuse, for example, no one seemed to relate to a cat named Smokey. Nevertheless, in such cases Edward can still toss out something he "sees" or "feels," and he may get lucky. Besides, the onus is on his listeners to somehow match his offerings to their lives, and if one person can't oblige, someone else will give it a try. Thus, when no one seemed to be "going to Thailand," Edward doubled his options, suggesting the trip was for adoption. Finally, one woman shouted out that she had adopted a child from Korea. When no one had experienced an Edward-visualized tattoo removal, a young lady helpfully supplied her adventure of an excised mole. Edward then looked for validation of an imagined spirit named Lily: She soon morphed into a cat of that name, still living!

Edward sometimes joked his way out of a dilemma. For instance, when one woman's late husband had not had the envisioned "foot surgery," Edward quipped, "Do you have any other husbands?"

Joking aside, this group approach has been a boon to modern mediums. On occasion, when multiple sitters acknowledge a particular offering, the medium can simply narrow the choice to a single person and then build on that success—a technique definitely employed by John Edward (Ballard 2001).

Getting Burned with 'Hot' Reading

According to respected journalists, episodes of *Crossing Over* were edited to make Edward appear more accurate than he was (Ballard 2001), even to the point of apparently splicing in clips of one sitter nodding yes "after statements with which he remembers disagreeing" (Jaroff 2001).

The onus is on his listeners to somehow match his offerings to their lives, and if one person can't oblige, someone else will give it a try.

Rarely, when the opportunity presents itself, Edward may turn from "cold reading" to the much more accurate "hot reading." Although I have no evidence of him using that technique in Syracuse, he was caught cheating with it on a *Dateline NBC* episode for which I was both a behind-the-scenes advisor and an on-camera interviewee. Edward was exposed passing off knowledge he had gained from a *Dateline* cameraman during a shoot hours earlier as otherworldly revelation during a reading session. He feigned surprise that his alleged spirit gleanings applied to the cameraman. As *Dateline*'s John Hockenberry subsequently told an evasive Edward, "So that's not some energy coming through, that's something you knew going in" (Nickell 2001).

In his book, *Crossing Over*, Edward disparaged Hockenberry who, he said, "came down on the side of the professional skeptic they used as my foil . . . Joe Nickell" (2001, 243). Edward also referred to Hockenberry's "big Gotcha! moment." That's right, John, we Gotcha! You were caught cheating. And your claimed psychic powers didn't even let you see it coming.

Fast Talker

In his stand-up act, Edward keeps things going at such a pace that there is little time to critically analyze what is occurring. The average person is not much better equipped to avoid being fooled by John Edward's sleight-of-tongue tricks than the artful illusions of a stage magician. Careful analysis of a recorded session by one knowledgeable of the techniques employed will prove more effective than the testimonials of someone fooled by the deceptions.

And so Edward's Syracuse audience regarded their belief in otherworldly communication as fully vindicated. There appeared to be only about four skeptics in the audience. Ironically, Edward seemed not to know they were there—even though one has been a particular thorn in his side. Couldn't he feel all those bad vibes coming from an area of the orchestra? □

Acknowledgments

In addition to those mentioned in the text, I am also grateful to Barry Karr, CSI executive director, for providing finances for my trip to Syracuse and to Timothy Binga, Center for Inquiry Libraries director, for research assistance.

Note

1. This was the June 19, 1998, *Larry King Live* show on CNN.

References

Ballard, Chris. 2001. Oprah of the other side. *The New York Times Magazine*, July 29, 38–41.

Edward, John. 1999. *One Last Time*. New York: Berkeley Books.

———. 2001. *Crossing Over: The Stories Behind the Stories*. San Diego, CA: Jodere Group.

Gibson, Walter B. 1977. *The Original Houdini Scrapbook*. New York: Corwin/Sterling.

Jaroff, Leon. 2001. Talking to the dead. *Time*, March 5, 52.

Nickell, Joe. 1998. Investigating spirit communications. *Skeptical Briefs* 8:3 (September), 5–6.

———. 2001. John Edward: Hustling the bereaved. SKEPTICAL INQUIRER 25:6 (November/December), 19–22.

James Arthur Ray: New Age Guru and Sweat Lodge Culprit

In recent years Sedona, Arizona, has become a popular haven for New Age cults of all shades. Why Sedona? Partly because of its superb scenery and sunlight, and partly because of the belief that it swarms with invisible "vortexes" from which one can draw cosmic or spiritual energy. There are also nearby Indian tribes with herbal remedies and powerful witch doctors.

On October 8, 2009, at a New Age retreat in Angel Valley, Arizona, near Sedona, another of Oprah Winfrey's and Larry King's guests ran into deep trouble. More than sixty followers of James Arthur Ray were crammed into a small tent Ray brought to an unbearable temperature with heated rocks. At the end of the first session of what Ray calls a "sweat lodge" meeting, guests were throwing up and passing out while Ray stood guard at the tent's flap entrance to prevent guests from leaving. By the meeting's end, some twenty followers were taken to hospitals where three died: Kirby Brown, thirty-eight; Liz Newman, forty-eight; and James Shore, forty.

Who the devil is James Ray? He was

Martin Gardner is author of more than seventy books, most recently The Jinn from Hyperspace *(Prometheus Books, 2008) and* When You Were a Tadpole and I Was a Fish, and Other Speculations About This and That *(Hill and Wang, 2009).*

James Arthur Ray

born and raised in my hometown of Tulsa, Oklahoma, where his father was pastor of the Red Fork Church of God, a Pentecostal congregation, for ten years. After graduating from Tulsa's Webster College High School, James worked at several Tulsa jobs before entering a junior college, where he failed to graduate. For a short time he was a sales manager for AT&T.

In his 2008 book *Harmonic Wealth*, Ray says he wandered for ten days in the Sinai Desert, ending up at a mountain cave where it is said Moses was handed the Ten Commandments. "This is where it all came together for me," Ray writes, "where the final pieces of harmonic wealth, and the quantum physics I had studied for a decade, took form."

Quantum physics? Did Ray study quantum theory at the junior college he attended or just read books about it? Did he take a course in quantum mechanics at Tulsa's great center of learning, Oral Roberts University? In his book, Ray claims he interviewed Peruvian Andes shamans and Amazon witch doctors. Maybe they taught him quantum theory? On his travels he wandered through the catacombs, the Egyptian pyramids, Paris museums, and a huge castle in Portugal.

Ray sells a DVD titled *Quantum Creations*. He describes it as providing a "specific plan to achieve exactly what you want out of life, using quantum physics strategies as discussed in the movies *What the Bleep Do We Know?* and *The Secret*." *The Secret* is a film based on a best-selling (thanks to Oprah) book with the same title. Ray appears in the film, helping explain how to obtain anything you strongly desire (see "Secrets and Lies," SI, May/June 2007).

I once saw a sign in a Tulsa bar that said, "It is better to be rich and healthy than to be poor and sick." Millions of Americans want to be healthy and rich. This yearning has spawned a variety of self-help scoundrels who have become millionaires from their books, lectures, and classes.

In a lengthy article in *The Arizona Republic*, Ray's views are described as a "cobbling of religions, ancient mysticism, modern science, and far-flung philosophies." Steve Salarno, author of *SHAM: How the Self-Help Movement Made Americans Helpless*, recently described Ray's opinions as a "psychological bouillabaisse drawing on random elements of the New Age and other facets of harmonic psychobabble." A far cry from the primitive fundamentalism of Ray's father.

Like so many self-help charlatans, Ray has quickly become a millionaire several times over. In 2008 his company, James Ray International, raked in $9.4 million. The Harmonic Wealth weekend offered by his company costs $1,297 for those willing to pay it. Of course, such weekends lead to even more expensive tutoring. The event that resulted in three deaths cost $9,695 per person—almost ten thousand dollars to die under Ray's care. His Beverly Hills mansion cost $4 million.

Before entering one of Ray's sweat lodge programs, everyone must sign a waiver. It reads: "I am fully aware that I may suffer physical, emotional, financial, and other injury during any of the activities." This, of course, is intended to get Ray off the hook if bad things happen to a follower. However, the waiver says nothing about suddenly dying, so it may not be so easy for Ray to tap dance out of lawsuits and criminal charges of negligent homicide. In addition to the three who died in Sedona, at least seven other needless deaths have occurred in sweat lodges in England and Australia.

I should add that Ray heads something he calls the World Wealth Society. This is an inner circle of a few dozen foolish followers who pay nonrefundable deposits of $20,000. And what is this gullible group's goal? It is nothing less than to transform the world into a utopia where everyone is healthy, happy, and, above all, rich!

Does Ray actually believe the piffle he preaches? Who knows? □

Notes

1. Doughtery, James. 2009. In quest of spiritual rebirth a witness sees a grim ending. *The New York Times*, October 22.
2. Harris, Craig, and Dennis Wagner. 2009. Cracks form in motivational mogul's empire. *The Arizona Republic*, October 12.
3. Books by Ray: *The Science of Success* (2003), *Practical Spirituality* (2005), *Harmonic Wealth* (2008), *The Seven Laws of Wealth* (2009).

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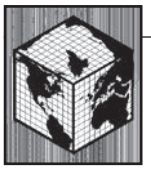

The Mystery of the Moving Tombstone

Dutch police experts gather around a TV screen. They are watching footage from a hidden camera that was positioned to monitor a supposed case of vandalism at the graveyard of Aaslum, a little village of 160 people in the Dutch province of Fryslân.

In February 2009 the family of a recently buried man found his tombstone moved aside. After this occurred three more times, they called the police to find out who was disturbing their relative's resting place. The police decided to place a hidden camera in front of the burial spot, and the resulting footage amazed onlookers.

A Chilling Mystery

"[It's] Absurd, [and] it really gave me the creeps," Anna Van der Meer, spokesperson for the Fryslân police, told the media. "When I saw the video I was flabbergasted. You can see the stone slide aside, almost falling to the floor. Then it comes to a halt against another gravestone of an adjacent grave, leaving the tomb open. How is that possible? I don't know, the lid weighs around 400 kilos. Furthermore, in the video you can clearly see that the stone is standing still then unexpectedly, in the blink of an eye, it slides aside over a distance of about a yard. I have never seen anything like this in my whole career. We have no possible explanation."

This poses quite a challenge for a mystery detective. Since I was planning a lecture tour of northern Europe, I called on my good friends at the Stitching Skepsis, the Netherlands' group of skeptics. Jan Willem Nienhuys, secretary of the group, told me that no one in Aaslum was really afraid or concerned about what had happened, not even the priest of the church where the graveyard was located.

Since I was going to be in the Netherlands soon, I was hoping to witness the sliding of the stone firsthand, but Jan Willem explained to me that the stonecutter had taken the lid back in order to roughen the bottom part. He later secured it in place with pegs and cement, preventing any further movement. From that moment, the phenomenon stopped.

I was then able to count on the help of another good friend from the Stitching Skepsis, Gert Jan van't Land, who got in touch with the police investigators. Unfortunately, the police refused to make available their files or any other formal information about the investigation because of the Dutch Law on the Protection of Police Information. However, Inge Oevering of the Netherlands Forensic Institute told Gert Jan, contrary to what newspapers had reported, that they did not conduct any investigation into the tombstone or the tape made on the graveyard. The Dutch "CSI-investigators" therefore could not provide any insight or information on the case. Gert Jan was also able to ascertain that Paul Andriessen, a Dutch geology professor incorrectly cited in the international newspapers as having studied the videotape, never saw the recording of the moving tombstone. He had only received a telephone call from a journalist who was interested in his opinion about the case.

In the video you can clearly see that the tombstone is standing still then unexpectedly, in the blink of an eye, it slides aside over a distance of about a yard. I have never seen anything like this in my whole career.
— Police spokesperson

A Freezing Solution

What is the most likely explanation for this unusual phenomenon? Some ghoul or ghost? According to the police offi-

Massimo Polidoro is an investigator of the paranormal, lecturer, and co-founder and head of CICAP, the Italian skeptics group. His Web site is at www.massimopolidoro.com.

cers who watched the video, the tape shows only a straight downward movement of the tombstone along the longitudinal axis of the grave and no upward movement of the tombstone, as had been reported in some media. Also, the movement occurred in the afternoon, and the tape shows sunny conditions and some melting snow or ice on the tombstone.

If the police officers in Fryslân gave a correct account of what was on the tape, the opinion of Gert Jan, who is preparing a detailed report on this event, is that the most likely explanation is unusual but not unlikely. The movement was almost certainly caused by water, under the right meteorological circumstances, entering into the crevice between the tombstone and the rectangular stone framework supporting the tombstone.

Several ingredients were needed to make the tombstone move in a straight slide along its longitudinal axis. The fact that the tombstone did not lie completely flat but at a slight angle was a prerequisite for movement by the force of gravity. The very smooth surface of both tombstone and supporting stone was the second ingredient in making the slide possible.

But the final solution lies in the fact that, as church sexton Tjerk Smits explained, every time the tombstone moved, the meteorological conditions were always the same: a cold night with temperatures below freezing, a bit of snow or ice on the tombstone, and sunny weather in the afternoon.

This all leads to the following scenario, as explained by Gert Jan:

> Water from rain or melting snow entered the crevice between the tombstone and the supporting piece of granite; low temperatures formed a small layer of ice in the crevice. Since ice needs more space than water, the contact between the tombstone and the supporting pieces of granite probably diminished, [and] more and more the tombstone came to rest on a small layer of ice. The power of expansion of freezing water is considerable—in fact it was used in ancient quarries to split stones. The ice could very well have formed a bridge between the tombstone and the supporting pieces of granite keeping the tombstone in place. The afternoon sun probably heated the black tombstone, and the ice in the crevice melted. As more and more ice melted, the friction between the stones became less and less until the force of gravity won and the tombstone started to move. After [the tombstone] started to move (it "yielded"), downward movement continued until it was halted by an adjacent gravestone. Continuing movement after a sudden start is a normal phenomenon. It is well known in mechanics that friction between moving parts is less than friction between parts that are not moving. It can be seen in avalanches: after movement starts, it continues.

The tombstone had been constructed in October 2008. Since then, it appears it was just waiting for the right circumstances that would make movement possible. □

Acknowledgment

Thanks to Gert Jan van't Land, Jan Willem Nienhuys, and all my friends at the Stitching Skepsis for their kind help and assistance.

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Since its creation in 1976, the Committee for Skeptical Inquiry (formerly known as CSICOP - the Committee for the Scientific Investigation of Claims of the Paranormal) has been honored by its association with founding member Carl Sagan, David Duncan Professor of Astronomy and Space Sciences and the Director of the Laboratory for Planetary Studies at Cornell University, Pulitzer Prize-winning author, Peabody-winning television producer, and recipient of the National Academy of Science's highest honor, the Public Welfare Medal.
Many of us first came to science and skepticism by way of Sagan's PBS series, COSMOS, but his dedication to skeptical inquiry began long before we saw him on television. Early efforts to inform the public about science, pseudoscience, and the difference between them began in the late 1960s, and from them Sagan created one of the key principles of the skeptical movement: extraordinary claims require extraordinary evidence. From his later work came the other pillar of skeptical inquiry: The Baloney Detection Kit. With these principles, his TV appearances, and his popular and prolific science writing, it's no exaggeration to say that Sagan inspired an entire generation of scientists and skeptics, the very people
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Climate Denialism

As I'm sure most SKEPTICAL INQUIRER readers are aware, November 2009 was "global warming denialism month." This is not an official United Nations designation but rather the consequence of a media storm occasioned by the teapot of a number of e-mail messages stolen from the University of East Anglia's Climate Research Unit. Perhaps the most insightful press coverage of the incident was published by George Monbiot in *The Guardian*. Monbiot pointed out the three obvious lessons to be drawn from the e-mail messages themselves and their subsequent controversy.

First, scientists really ought to take their critics—and their relationship with the public—more seriously. Considering the nature of academic culture, this has always been a problem. But to deny requests for raw data, even when made by third parties with no real interest in the data themselves, is bizarre and unethical. Indeed, all raw data gathered by any scientist or scientific organization working with public funding, anywhere in the world, ought to be made immediately available online after acceptance for publication of the relevant technical papers. It's the ethical thing to do, and it is simply indecent that some of the scientists involved in this case focused instead on the fact that the e-mails were obtained illegally—it's a red herring that does not reflect well on the integrity of said scientists.

Second, Monbiot pointed out that it is patently obvious that "the other side" does not have any real interest in the truth about global climate change; they are simply out to score public relations (and possibly political) points for their preconceived notions about the issue. This is plainly visible to anyone who gives even a superficial reading to the many declarations of "gotcha!" and "conspiracy!" that have been thrown around. Regardless of the content of the stolen e-mails, and even of the possibly questionable ethics of some of the scientists involved, the evidence for human-caused global warming is so obvious and overwhelming that it is just as silly to deny it as it is to deny evolution, to deny that HIV causes AIDS, or to deny that vaccines don't have anything to do with autism (to mention just a few of the currently available flavors of denialism). This evidence can be found in the record of temperatures from 1850 on, the documented responses of plants and animals over the past several decades to ongoing climate change, and the thinning of sea ice and melting of glaciers, not to mention the fact that Earth temperatures have been out of sync with the solar cycle for more than forty years (and no, the Milankovic cycle doesn't explain that, just in case you were wondering).

Regardless of the content of the stolen e-mails… the evidence for human-caused global warming is so obvious and overwhelming that it is just as silly to deny it as it is to deny evolution, to deny that HIV causes AIDS, or to deny that vaccines don't have anything to do with autism.

The third conclusion drawn by Monbiot, however, is perhaps the most disturbing. Monbiot concludes that while much of the media and several politicians

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have made a huge deal out of a minor incident, they just don't seem to be interested in seriously addressing the real story, which is the systematic spending of millions of dollars by large energy companies to keep the public thinking that there is in fact a scientific controversy. The jury, they say, is still out (and therefore it is premature to call for any action, especially action that is likely going to impact those companies' bottom lines).

The following are two examples of the sort of real conspiracies the public ought to get angry about. The Global Climate Coalition is a group representing the American Petroleum Institute, BP, ExxonMobil, Shell, and a number of large car makers. In 1995 *their own scientists* put together a report that in part read, "The scientific basis for the greenhouse effect and the potential impact of human emissions of greenhouse gases such as CO_2 on climate is well-established and cannot be denied." The Coalition's response was to hide the report while spending millions to convince the public that the exact opposite is true. Also consider the Heartland Institute (again, co-sponsored by Exxon Mobil, as pointed out by Monbiot), which put together one of those lists of "scientists who disagree with X" (where X was human-made global warming but in a different context just as easily could have been evolution). Yet many of said scientists angrily demanded to be taken off the list as soon as they found out what the Heartland Institute was saying in their names. The Institute—in a flabbergasting breach of protocol—declined to take the names of said scientists off their misleading list. Talk about unethical behavior and attempts to cover up the truth.

Given all of the above, where exactly is the conspiracy? Demonstrably, it's on the side of the industry, despite some callous and borderline unprofessional behavior on the part of a few scientists. Who, therefore, should we be upset with? A large section of the media for blowing the e-mail controversy out of proportion while giving little if any attention to the real story. The whole episode, and indeed the global warming "controversy," shows the crucial importance of a point made by Noam Chomsky (cited in *A Short Course in Intellectual Self-Defense* by Normand Baillargeon): "My personal feeling is that citizens of the democratic societies should undertake a course of intellectual self-defense to protect themselves from manipulation and control, and to lay the basis for more meaningful democracy." Clearly, we have a long way to go to achieve a meaningful democracy. □

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Famous Socorro 'UFO Landing' a Student Prank?

The famous Socorro "UFO landing" case of April 24, 1964, has been proclaimed by leading UFOlogists, such as Jacques Vallee and the late J. Allen Hynek, as among the best ever recorded. Policeman Lonnie Zamora allegedly witnessed two humanoids standing outside a landed craft, which then flew away with a loud roar. The object's landing pads allegedly left behind four indentations in the ground, and nearby vegetation was scorched and burning. Could this classic UFO incident have been a hoax perpetrated by students at the New Mexico Institute of Technology? That's exactly what UFOlogist Anthony Bragalia, who usually argues the pro side of UFO discussions, claims.

Recently, Bragalia has been promoting the idea that the development of nitinol, the so-called "memory metal," was reverse engineered from alien material found at the supposed Roswell crash. However, skeptics point out the inconclusive nature of the links he cites as evidence and the fact that the military was contracting similar metallurgical research well before the Roswell events in 1947. (For more about this, see Tim Printy's SunLite #3 at http://home.comcast.net/~tprinty/UFOSUNlite.htm.)

In a September 23, 2009, blog, Bragalia wrote, "The Socorro UFO Hoax Exposed! (Famous 1964 sighting was a college prank)." The principal support for this conclusion was found in a scribbled reply to a letter by Nobel Prize-winning chemist Linus Pauling to Stirling Colgate, a noted physicist who also served as president of New Mexico Tech. The 1968 letter recently discovered in Pauling's papers has Pauling asking Colgate, purely as an aside from other matters, about the famous UFO incident that occurred in Socorro, just a short distance from his campus. Colgate's brief and enigmatic reply was, "I have a good indication of the student who engineered the hoax. Student has left. Cheers, Stirling" (Bragalia 2009).

Surely, it seems, if anyone would be in a position to know for certain about a supposed student hoax at New Mexico Tech, it would be this science professor and university president. Pauling died in 1994, but Colgate is not only still living but also enjoying a very active retirement at New Mexico Tech, still carrying out research programs in physics. In a brief reply to Bragalia, Colgate acknowledged that he still "knows" the incident was a hoax but said little else. Unfortunately, Colgate seems annoyed by all the attention he has received from UFOlogists of all stripes and is no longer saying anything to anyone about it. Researchers, including Dave Thomas of New Mexicans for Science and Reason (NMSR), are pursuing the claim of a possible student hoax through the New Mexico Tech alumni community.

How such a hoax might be pulled off has, unfortunately, never been fully explained. Frank T. Etscorn, a former psychology professor at New Mexico Tech, told Bragalia that one of his students during the 1980s researched the alleged hoax and located one of the participants, who acknowledged his role but would neither elaborate on the hoax

Robert Sheaffer's "Psychic Vibrations" column has appeared in the SKEPTICAL INQUIRER *for the past thirty years, and he is author of* UFO Sightings: The Evidence *(Prometheus 1998). His Web site is at www.debunker.com.*

nor allow his name to be used. It was also discovered that a rear-projection device was stolen from the college on the day of the Zamora UFO incident. However, it is not likely that a rear-projection device would have been of any use in creating an illusion in the desert in full sunlight. Dave Collis, who entered New Mexico Tech as a freshman in 1965, told Bragalia that he was told in confidence by an unnamed professor that "the UFO sighting by the town cop was a hoax done by Techie students."

There is a rich and long tradition of elaborate hoaxes pulled off by clever college students, and some of them remain unsolved after many years. (For a look at some of the classics, see *If at All Possible, Involve a Cow: The Book of College Pranks* by Neil Steinberg and *Nightwork: A History of Hacks and Pranks at MIT* by T.F. Peterson.) The suggestion has plausibility, especially in light of information that Lonnie Zamora had worked in the machine shop at New Mexico Tech before becoming a policeman and that there was antagonism between Zamora and at least some students, as often occurs between high-spirited college students and conservative local law enforcement.

The late Philip J. Klass, a noted UFO skeptic, visited Socorro in 1966 and interviewed Zamora and others who had first-hand knowledge of the incident. Klass was puzzled by how little interest there was among the scientists at New Mexico Tech in what might be the first genuine alien encounter in recorded history, occurring literally in their backyard. Klass wrote, "When I pressed one member of the community to explain this apparent indifference, he suggested that I 'nose around a bit,'" and he went on to explain to Klass that the town was seeking to attract tourists to strengthen its economy. Klass also noted the curious lack of symmetry in the "pad prints" supposedly left behind, illustrating how unsuitable such an unstable design would be for any craft. Klass concluded that the incident was a hoax to put Socorro on the map, a collusion probably involving Zamora, the mayor, and a few others (Klass 1968). If that is the case, Socorro has not been nearly as successful at milking UFO notoriety as another New Mexico town named Roswell.

The assumption that the incident was a student hoax instead of one perpetrated by publicity-seeking town leaders changes Zamora from an "active participant" to "victim of the hoax," which frankly seems more plausible.

Claims have been made about other witnesses who allegedly saw the UFO at the same time as Zamora, but an unpublished paper by Klass shows why these claims are not plausible. (I have placed this and several others of Klass's previously unavailable UFO "White Papers" on my Web site; see www.debunker.com/historical/historical.html.) For decades, Zamora had been unwilling to discuss the incident any further. Lonnie Zamora died November 2, 2009, and had not given any interviews in many years. Undoubtedly he had already said everything he had to say about the incident.

Over the years, other theories have been put forth to explain the Zamora UFO incident. Apparently there was a flight test of the Lunar Surveyor using a helicopter near Socorro that day, raising the possibility that Zamora witnessed this test and misperceived it (Thomas n.d.). Engineer Larry Robinson suggested that Zamora saw an early propane-powered hot air balloon, at that time a relatively new technology unfamiliar to most people (Robinson n.d.). British UFOlogist James Easton wrote, "during this period, classified CIA hot-air balloon test flights were being launched from a site on the banks of the Rio Grande, north of Albuquerque—the 'Albuquerque Flights.'" These flights involved Raven Industries of Sioux Falls, South Dakota. Easton further wrote that, amazingly, his 2003 Freedom of Information request for more information about these balloon flights was denied by the CIA on the grounds that the information was still classified (Easton 2003).

The assumption that the incident was a student hoax instead of one perpetrated by publicity-seeking town leaders changes Zamora from an "active participant" to "victim of the hoax," which frankly seems more plausible. However, while we might suppose that two students wearing white overalls may have made some marks in the ground and released a helium balloon when Zamora arrived, it is difficult to see how they removed themselves from the scene before Officer Chavez arrived minutes later. If any reader has first-hand knowledge concerning this incident, I'd very much like to hear about it.

A splendid example of a major student hoax of more recent vintage was the video of a supposed glowing-hot "meteorite" crashing in Latvia in October 2009, belching flame and smoke (search for "meteorite in Latvia" on YouTube). While initial news reports were supportive of the claim, experts soon began noticing problems. The supposed "crater" was discovered to have been dug by shovels, and meteorites are no longer hot enough to glow by the time they land. The bad acting in the video as the students "discovered" the meteorite did not help anything. Still, the hoax kept people guessing for a short time (see http://tinyurl.com/yjev5hd).

* * *

"Mystery As Spiral Blue Light Display Hovers above Norway," proclaimed the Drudge Report. "A MYSTERIOUS giant spiral of light that dominated the sky over Norway this morning has stunned experts—who believe the space spectacle is an entirely new astral phenomenon," exclaimed the British tabloid newspaper *The Sun*. Dozens of other news publications and Web sites ran similarly breathtaking stories. All across Norway on the morning of December 9,

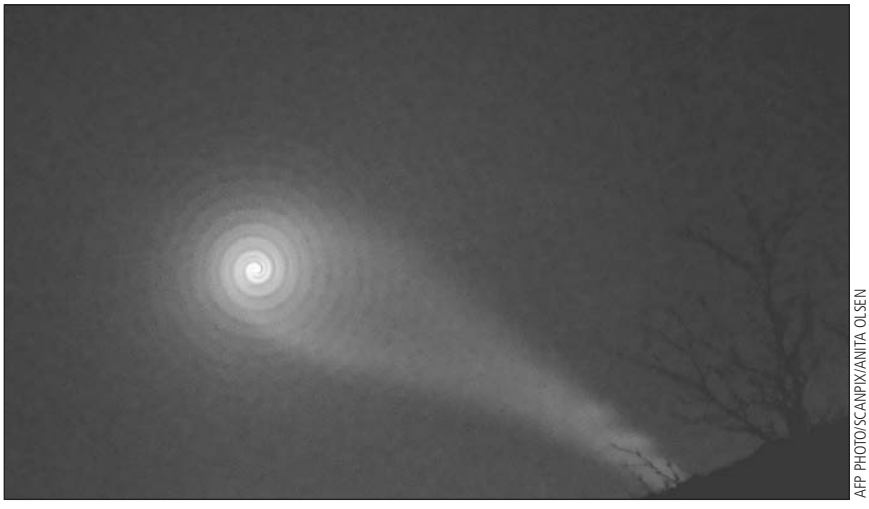
people heading to work saw a bright "star" rising in the sky, spiraling out an amazing pinwheel of white light. A blue tail seemed to point back to Earth. The well-known British UFOlogist Nick Pope told *The Sun*, "A meteor or a fireball would simply travel in a straight line but for something to spiral in this way appears to go against the laws of physics. . . . It's ironic that something like this should happen the very week after the MoD [British Ministry of Defence] terminated its UFO project. It just goes to show how wrong that decision was." For about a day, the media flogged it as a great mystery.

While the mystery-mongers were busy spreading their uninformed speculations, serious observers immediately suspected it was a Russian rocket launch. At first the Russians denied any launch, but Russia had just posted a warning for ships to stay out of that area because of a scheduled missile launch. Also, similar (albeit much less spectacular, as the rocket is not in sunlight) launch spirals had been observed before in a 2007 video of a Russian rocket spiraling out of control (see www.youtube.com/watch?v=cTImevaNz0g). About a day later, the Russian Defense Ministry acknowledged the failed test launch of its troubled new Bulava series intercontinental ballistic missile (ICBM).

The recent incident over Norway occurred sometime after 8 AM local time, when the sky was still dark. Photos show twilight beginning (the sun doesn't rise until after 9 AM in Norway during the winter). As the rocket rose higher above the ground, it entered sunlight while ground observers were still in darkness. The rocket began venting propellant while spinning, creating a spectacularly bright sunlit spiral unwinding against a dark sky. I can truly say that this is the most spectacular "UFO" that has ever been captured on photo or video, and our knowledge of what it is does not diminish its awesomeness.

* * *

As Pope noted above, on December 1 the British Ministry of Defence confirmed the closing of its so-called "UFO hotline," where individuals could call or e-mail to report a sighting. The Ministry received 135 reports during 2008. By closing the hotline, the Ministry expects to save the equivalent of about $73,000 each year, a trifling sum in the context of military budgets. There was only one man working in the department that looked into UFOs, and he worked only part time. Nick Pope had previously held that position.



AFP PHOTO/SCANPIX/ANITA OLSEN

This picture taken on December 9, 2009, shows an unusual light phenomenon above the Norwegian city of Skjeroy. A failed Russian test launch of its Bulava ICBM was later acknowledged as the cause.

A spokesman for the Ministry stated, "Our resources are focused on the priority—the front line in Afghanistan. Any legitimate threat to the U.K. air space will be spotted by our 24/7 radar checks and will be dealt with by RAF fighter aircraft." Pope told the Associated Press, "It's a great shame. This is the end of over 50 years of research and investigation into one of the biggest mysteries of our time." However, the MoD stated, "In over 50 years, no UFO report has revealed any evidence of a potential threat to the United Kingdom. . . . The MoD has no specific capability for identifying the nature of such sightings. There is no defence benefit in such investigation and it would be an inappropriate use of defence resources."

In a recent column I described some other attempts to develop "rapid response" investigations of UFO sightings utilizing a hotline and other tools (see "Bigelow's Aerospace and Saucer Emporium," SI, July/August 2009). France terminated its government UFO investigations in 2004, and the U.S. Air Force closed down its Project Bluebook in 1969. Several independent private efforts in the U.S and Mexico have been launched over the years with high expectations and fanfare, but none of them has ever resulted in getting any solid, convincing evidence of UFOs. The people of the U.K. need not be concerned that valuable UFO information might be lost by this decision, as no group in any country has succeeded, despite a number of attempts, in catching any UFO *in flagrante delicto*, even when there was a hotline for people to call at the very moment they believed they saw an alien spaceship in the sky. □

References

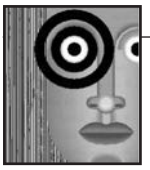
Bragalia, Anthony. 2009. The Socorro UFO hoax exposed! (Famous 1964 sighting was a college prank). The UFO Iconoclast(s) blog, September 23. Available online at http://ufo-con.blogspot.com/2009/09/socorro-hoax-exposed-famous-1964.html.

Easton, James. 2003. The UFO Research List forum, July 11. Available online at http://tech.groups.yahoo.com/group/UFORL/message/1820.

Klass, P.J. 1968. *UFOs—Identified*. New York: Random House.

Robinson, Larry. n.d. Solving the 1964 Socorro NM UFO case. MidiMagic. Available online at http://midimagic.sgc-hosting.com/howisoco.htm.

Thomas, David E. n.d. A different angle on the Socorro UFO of 1964. New Mexicans for Science and Reason. Available online at www.nmsr.org/socorro.htm.



BodyTalk: Boon or Bogus?

Q: I work for a national corporation and recently noticed pamphlets advertising "BodyTalk" therapy distributed around the workplace. Now a BodyTalk practitioner is scheduled to hold an introductory seminar—sponsored by our registered nurse. What questions should I ask the practitioner about this therapy?

—I. Kappler

A: BodyTalk sounds kind of New Agey. When I did some digging, I found this description: "BodyTalk is a simple and effective holistic therapy that allows your body's energy systems to be re-synchronized so they can operate as nature intended" (www.bodytalksystem.com). Can't you feel the woo already?

Wait, it gets better: "Each system, cell, and atom is in constant communication with each other at all times. Through exposure to the stresses of day-to-day life, these lines of communication can become disconnected, [resulting] in a decline in physical, emotional and/or mental well-being." That's right, according to BodyTalk creator "Dr." John Veltheim (who is not a medical doctor), if you are not feeling well, it's because the cells in your body aren't communicating. This is an interesting idea that has absolutely no basis in reality, medicine, or scientific fact.

How to expose this? Sometimes the best way to combat pseudoscience is with a series of simple, basic, innocent questions. The questions work best when framed not as an arrogant assault on the practitioner (who, after all, probably believes in the therapy) but as simple and sincere "I'm trying to make sure I understand what you're saying" type queries. A few questions you might ask the BodyTalk advocate:

1) Has this therapy been subjected to any scientific or medical testing to make sure it is safe and effective? Are there any references to studies published in peer-reviewed medical journals involving BodyTalk therapy? If not, why not?
2) The BodyTalk therapy seems based on manipulating "energy systems." What "energy systems" is this referring to? Is that the same as the "life energy" or *chi* that doctors and scientists have never been able to find or measure?
3) When you talk about the systems being "re-synchronized," what exactly does that mean? What sort of medical tests or measurements determine whether or not the systems are synchronized? Other than subjective feelings or self-reports, is there any way to know if a body has been "re-synchronized" or not?
4) What evidence is there that the premise of BodyTalk (that problems with "physical, emotional, and/or mental well-being" are caused by poor "communication" among cells and atoms) is true? If diseases are really caused by some sort of lack of communication, why was this discovered only in the past few years? Have doctors around the world been wrong about the cause of disease for hundreds of years? Can BodyTalk therapy cure almost any problem?[1]
5) Is BodyTalk therapy used in mainstream hospitals around the country? If so, which ones? If not, why not? If it's an important, valuable therapy with proven efficacy, why isn't it widely used and recognized?

The questions could go on, of course, but you get the idea. If these queries are made politely but firmly and in public, the advocate's inability to answer these questions will raise doubts in the room. It's also helpful to appeal to the bottom line: "Well, if we don't really have good answers to these questions, maybe we should hold off until we do." If someone expects you to spend your time (and the company's money) on this therapy, you deserve straightforward answers about what it is and if it's valid. The real question you should ask ("As a registered nurse, shouldn't you know better than to sponsor this worthless therapy?") may be better left implied. □

Note

1. For an excellent background on this, see Harriett Hall's article "The One True Cause of All Disease" in the January/February 2010 issue of the SKEPTICAL INQUIRER.

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An Eye for the Ladies

Evolutionary scientists made 2009 a remarkable year for the fairer sex. Let's start with *Darwinius masillae*—remember "Ida"? On May 19 the world was introduced to the purported "missing link" between primitive primates and humans—an exceptionally well-preserved, forty-seven-million-year-old cat-sized fossil belonging to an extinct branch of early primates called adapiforms. As an international team led by Jørn Hurum of the University of Oslo, Norway, released the *PLoS One* paper, Ida was ceremoniously unveiled to an enthusiastic audience that included New York City Mayor Michael Bloomberg at the American Museum of Natural History. A book and documentary film, both dubbed *The Link*, quickly followed.

Hurum claimed that although Ida plainly resembled some prosimians (lemurs, tarsiers, and their extinct ancestors), her fossil also revealed anthropoid-like (and thus human-like) features, including a partially fused lower mandible and a foot bone called a talus. She also lacked the "toothcomb" and "grooming claw" more typical of lemurs. Because she was recovered from an oil shale pit in Messel, Germany, Hurum's team argued that Ida also challenged the more conventional wisdom that anthropoids had originated in Africa.

But criticism rained fast and furiously on Ida's well-publicized parade. In the May 30 *New Scientist*, Chris Beard, curator of vertebrate paleontology at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania, declared, "Ida's a fine fossil, but she's not the missing link." Arguing that she "fails miserably" to display any anthropoid features that evolved after that group's split from other primates, Beard bluntly characterized the Ida unveiling as "unbridled hoopla" and warned his fellow scientists against having their work "evaluated on the same basis as the advertising campaign for the next world tour of the Rolling Stones."

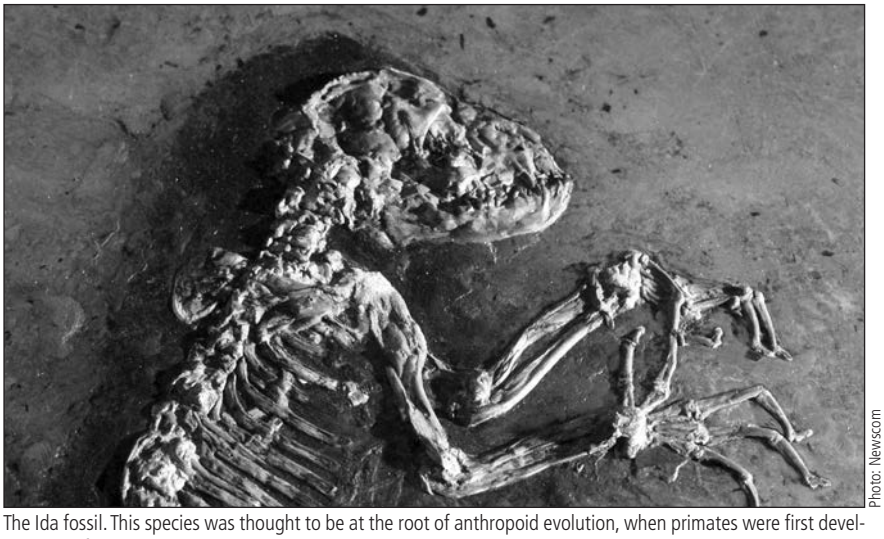

Photo: Newscom

The Ida fossil. This species was thought to be at the root of anthropoid evolution, when primates were first developing the features that would evolve into our own.

On July 1 Beard published an article in the online *Proceedings of the Royal Society B* that introduced a thirty-eight-million-year-old fossil primate from Myanmar (formerly Burma) called *Ganlea megacanina*. *Ganlea* possessed a distinctive feeding adaptation characteristic of modern saki monkeys from the Amazon Basin of South America: an extremely large canine tooth used to pry open tough tropical fruits to access their seeds. Compared to adapiforms like Ida, Beard concluded, Asian amphipithecids like *Ganlea* were much stronger candidates for the coveted title of ancestors to the anthropoids.

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In "Weak Link," Kate Wong's short piece in the August issue of *Scientific American*, Robert Martin from the Field Museum in Chicago and Richard Kay from the paleontology department at Duke University piled on to the now-crowded anti-Ida bandwagon. Martin pointed out that fused lower jaws had evolved independently in several other mammals, including lemurs, but were not present in the earliest anthropoids. Like Beard, Kay judged that fossil evidence of primitive Asian primates proved that the lady from Messel was not a direct ancestor of monkeys, apes, or humans.

Finally, in the October 22 *Nature*, a team led by Erik Seiffert at Stony Brook University in New York compared the fossil traits of two adapiforms, Ida and the thirty-seven-million-year-old *Afradapis longicristatus*, to those of more than one hundred other living and extinct primates. After evaluating 360 morphological features, Seiffert concluded that although the adapiforms shared certain traits with anthropoids—the loss of a third upper and lower premolar, for example—those characteristics had arisen more than once among primates and were "most parsimoniously interpreted as evolutionary convergences." Ida was not a haplorhine anthropoid, in other words, but rather a strepsirrhine (a group including lemurs and lorises) that "left no known descendants."

Hurum's team continues to defend Ida's status as the so-called "missing link," but her claim to fame appears to be falling on increasingly deaf ears. Even so, the gods of paleoanthropology appear to be smiling brightly upon two much younger ladies—one from Aramis, Ethiopia, and the other from the Indonesian island of Flores.

Clocking in at about 4.4 million years old, *Ardipithecus ramidus* may revolutionize our long-held assumptions about the evolution of bipedality and the physiology of the six million year old last common ancestor between humans and chimpanzees. "Ardi," a fairly complete skeleton found among thirty-six or more individual African specimens, didn't knuckle-walk or swing through the trees like an ape. Instead, she probably walked upright on the ground but also used her opposable big toes to negotiate intermediate tree limbs on all fours.

Ardi is one of just six skeletons dated to more than a million years old and the only one older than Lucy (*Australopithecus afarensis*) to be published. Tim White and others from the Middle Awash research group discovered these wonderful fossils beginning in December 1992. But only recently were eleven papers and author summaries dissecting the amazing details of Ardi's anantomy, diet, habitat, and evolutionary significance finally released in the October 2, 2009, *Science*. An "unpredicted and odd mosaic," writes White's team, *Ar. ramidus* "is so rife with anatomical surprises that no one could have imagined it without direct fossil evidence." Ardi's discovery was named Breakthrough of the Year in the December 18 *Science*. Deserving far more attention than I can deliver here, Ardi and her captivating cohorts will be featured more prominently in an upcoming issue of the SKEPTICAL INQUIRER.

The gods of paleoanthropology appear to be smiling brightly upon two much younger ladies—one from Aramis, Ethiopia, and the other from the Indonesian island of Flores.

But no fossil hominin's gleam can eclipse the ever-brightening limelight cast upon the little lady of Flores, Indonesia, known as LB1. About a meter tall with a chimp-sized brain, LB1 and her fellow "hobbits" were recovered late in 2003 from Liang Bua cave sediments dating from 95,000 to 15,000 years ago (see my article, "Pathology or Paradigm Shift?" SI, July/August 2009). From the beginning, a small minority of scientists have disputed the majority's conclusion that LB1 represents *Homo floresiensis*, a species entirely separate from our own. These detractors have hypothesized that the hobbits are merely pygmoid or pathological *H. sapiens*, and what remains of the debate has, unfortunately, grown somewhat venomous.

Even so, the new-species proponents have recently fortified their position. Indeed, the *Journal of Human Evolution* devoted an entire edition to more evidence and arguments in favor of *H. floresiensis*. Guest-edited by Michael Morwood, LB1's Australian co-discoverer, and William Jungers, a prominent anatomist at Stony Brook University, the November 2009 issue featured peer-reviewed articles analyzing much of the hobbits' tiny bodies, including their brains, teeth, mandibles, and limbs, along with their stone-flaking technology and environmental milieu.

Doubtless, the evolutionary stakes over the Flores hominins are extremely high. Conventional wisdom has long held, first, that the Neanderthals were the last group of hominins to cohabit the earth with *H. sapiens* and, second, that no human species had ventured from the confines of Africa prior to *H. erectus*. The hobbits effectively challenge both paradigms, according to Jungers and his co-worker Karen Baab. In the December 2009 issue of *Significance*, they discuss evidence suggesting that LB1 may have descended from a species much smaller and more ancient than *H. erectus*.

Statistical analyses of skull shapes, for example, "find modern humans in one grouping," the authors say, "microcephalic humans in another, and the hobbit, together with ancient hominins, in a third." They found that hobbit bodies were unique too. The Flores specimens were "far stockier" than any mod-

ern human, including pygmies, and although their arms were about the same length as those of pygmies, their legs were much shorter. To Jungers and Baab, this peculiar ratio implies an evolutionary retention rather than a reversal because selective forces would probably not reverse more economical features like long limbs. Finding no special resemblances between *H. erectus* and the hobbits, the authors emphasize the possibility of a pre-*erectus* out-of-Africa trek by "*Homo habilis* or some as yet unknown ancient species."

And now everyone's grandma is in the evolutionary spotlight too, though some grandkids will surely be more impressed with the news than others. Natural selection, of course, continues to pose tough questions for all scientists. How altruism and homosexuality evolved are usually mentioned first. But what about postmenopausal longevity; why do women—unlike other primates and most mammals—live long past their child-bearing years? A team led by University of Cambridge anthropologist Leslie Knapp has offered the "X-linked grandmother hypothesis"—an exceptionally interesting, if for some quite troubling, explanation recently published in a *Proceedings of the Royal Society B* article titled "Grandma Plays Favourites."

Scientists had previously proposed that grandmothers perpetuate their genetic material by generally caring for their grandchildren. But according to Knapp, because those earlier studies failed to distinguish between maternal and paternal grandmothers (MGMs and PGMs), they "found no correlation" between grandmother presence and grandchild survivorship. Moreover, only two prior studies distinguished between male and female grandchildren. Suggesting cultural mechanisms for their results, those studies revealed that MGM presence had a positive effect on both sexes, but that PGM presence had a positive effect on girls and a negative effect on boys. Query: if the causes were merely cultural, why the difference?

For two important reasons, Knapp looked to the X chromosome for clues. First, the copious X contains 1,529, or 8 percent, of all human genes, many of which are associated with fertility and intelligence. By comparison, the tiny Y chromosome stores just eighty-nine genes and the average autosome only about eight hundred genes. Second, because of how the X is passed down between generations, some grandmas are biologically closer to some grandkids than to others. While MGMs are 25 percent X-related to both boys and girls, PGMs are 50 percent X-related to granddaughters but 0 percent to grandsons.

According to Knapp's conclusions, these genetic inequities produce very serious real-world effects. The team analyzed sex-specific grandchild survival rates among seven modern and historical societies across the globe (in Japan, Germany, England, Ethiopia, Gambia, Malawai, and Canada). Amazingly, they discovered that regardless of cultural circumstances, the effect of grandmother presence on grandchild mortality closely corresponds to the degree of X-relatedness—a PGM, in other words, will actually increase a girl's (yet decrease a boy's) chance of survivorship.

This, of course, is not to imply that grandmas *intentionally* discriminate against some of their grandkids. Although the mechanism is surely an unconscious one, Knapp could only guess how it really works—perhaps through a child's pheromones or physical resemblance, for example. Nevertheless, her team's results were impressive, to say the least, and just might provoke some interesting conversations across holiday dinner tables this year.

But we shouldn't be too surprised if over the next few centuries or so we notice that the ladies sitting at those tables have begun to change. In an attempt to show that natural selection continues to mold the human species despite modern medicine's benign and insulating influences, and that we can predict changes to specific traits in the short term, Yale University biologist Stephen Stearns pored over results from the Framingham, Massachusetts, Heart Study, which, initiated in 1948, is the longest-running multigenerational analysis in medical history. In October 2009, Stearns' team reported their results in the *Proceedings of the National Academy of Sciences*.

The original heart study included thousands of Framingham residents—most of Northern European descent—and more than nine hundred family trees. Stearns considered only the women for lack of paternity information. After comparing certain medically significant traits between generations, and controlling for about fifty environmental factors, his team claimed the ability to forecast the rate of evolutionary change ten generations forward.

After comparing certain medically significant traits between generations, and controlling for about fifty environmental factors, Stearn's team claimed the ability to forecast the rate of evolutionary change ten generations forward.

Framingham women of the future, they predicted, will be slightly "shorter and stouter" with lower total cholesterol levels and systolic blood pressures, and they will give birth to their first child sooner and reach menopause later. In other words, the ladies will be healthier and enjoy longer periods of reproductive viability. I wonder—will Barbie get a makeover too? □

The Psychic and the Serial Killer

Examining the 'Best Case' for Psychic Detectives

An examination of the 'best case' of psychic detective abilities offers insight into how extraordinary claims are made, exaggerated, and clung to despite clear disconfirming evidence.

BENJAMIN RADFORD

Amie Hoffman, an eighteen-year-old cheerleader at Parsippany Hills High School in Hanover Township, New Jersey, left her part-time job at a local mall on the evening of November 23, 1982. She had worked a double shift and was heading home for the Thanksgiving holiday with her adoptive parents.

Unfortunately, she never arrived. After several worried hours, Hoffman's mother went to the mall, where she found Amie's car in the parking lot. The keys were in the ignition, and her purse and sweater were in the front seat. There was no evidence of a struggle; it seemed Amie had simply vanished.

She was found floating face down in four feet of water in a concrete water tank at the Mendham Borough Reservoir

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WEATHER
Partly sunny-Details, Page 2

FRIDAY, NOVEMBER 26, 1982
The Paper That Cares About You
25 CENTS

Missing cheerleader found dead

By LORRAINE ORLANDI
Staff Writer

RANDOLPH TWP. — An 18-year-old Parsippany Hills High School cheerleader, missing since Tuesday, was found dead yesterday, floating face down in a concrete water tank at the Mendham Borough Reservoir.

Amie Hoffman, who was to have cheered at yesterday's homecoming game against Mount Olive, was stabbed several times in the chest and other parts of the body with a sharp instrument. She died some time Tuesday night, Randolph Township police said.

Her body was found at 12:13 p.m., in one of three, 5-foot-deep water holding tanks at the reservoir, by

Amie Hoffman

McKenna said there does not appear to be a link between Hoffman's murder and the shooting

on November 25 by a couple walking their dog. Hoffman had been stabbed several times with a sharp knife. The killing set the community on edge. A $5,000 reward was offered for any information about Hoffman's killer, and within a week the FBI was involved in the investigation. Several eyewitnesses came forward with a description of a man and his vehicle last seen with Hoffman, though the case seemed stalled.

Finally one detective working on the periphery of the case, Capt. Jim Moore, contacted local psychic Nancy Weber, with whom he was acquainted. Moore soon brought in a second detective, Bill Hughes. Weber told both police officers details about Hoffman's death that allegedly even the police did not know, convincing them of her credibility.[1]

After a few initial meetings, the three of them drove together to the crime scene, and Weber gave the police information about Hoffman's killer, telling them: "The man who did this, his first name is James, his last name is Polish, multiple syllables, beginning with a 'K' and ending in an 'ish.' He came up from Florida where he had been imprisoned for murder. He lived in the area" (Weber 2008).

Moore and Hughes took down her information but were unable to locate the killer. He murdered a second woman, Dierdre O'Brien, two weeks later on December 5. Like Hoffman, she had been abducted and repeatedly stabbed. She was rescued by a driver at a truck stop and briefly described her attacker to him, but she bled to death in his arms. On December 10, Morris County police released a sketch of the suspected murderer; three of Hoffman's coworkers had seen the man and his Chevrolet at the mall. This turned up no new leads, and the investigation continued.[2]

The serial killer was not arrested until six weeks later, in the early morning hours of January 17, 1983. He had called the Morristown police from his home to report that he had been attacked by an unknown assailant. It turned out to be a false report, but while at his home an observant police officer noticed that his turquoise Chevrolet matched the description of the Hoffman and O'Brien suspect's car and arrested him on the spot. The tread on his right rear tire matched a track left at the scene of O'Brien's murder, and fibers found in his car matched those from the clothing of one of his victims. The reign of terror that had gripped Morris County since Thanksgiving finally eased.

Police identified the suspect as James Koedatich, a thirty-year-old man of Polish descent who lived nearby in Morristown. He had served ten years in a Dade County, Florida, prison for robbery and second-degree murder and had been released on August 18, 1982.

As presented by Nancy Weber, a 2006 episode of the Biography Channel TV show *Psychic Investigators*, the *Skeptiko* podcast, and elsewhere, Weber's psychic information about Hoffman's killer turned out to be amazingly accurate in nearly every detail. Her credibility was dramatically bolstered by detectives Moore and Hughes, who publicly professed belief in her abilities. Little wonder that it is touted as one of the best cases of psychic detective abilities.

The *Skeptiko* Psychic Detective Challenge

I first heard about the case in mid-2008, when I was a guest on a podcast called *Skeptiko* (whose tagline is "Science at the tipping point"). During an interview about testing psychics, host Alex Tsakiris repeatedly accused skeptical investigators of purposely choosing the weakest cases. According to Tsakiris, skeptics steer away from the "best cases" and instead choose the most dubious ones, the equivalent of a professional boxer intentionally choosing unworthy opponents ("tomato cans"), to

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inflate their apparent success rate. Tsakiris (2008a) asked me, "Why don't you ever investigate very good cases?

That wasn't true of me or any other skeptics I knew—as an investigator, I don't want to waste my time on poor evidence. So I challenged Tsakiris to find his best case for psychic detectives: "You find the best case you can. Look through all the psychics you want; pick the one case you think is airtight." He could choose any case from any time, anywhere in the world, that presented the gold standard for evidence of psychic detectives. He would then present it to me, and I would investigate it. This challenge turned into one of the most in-depth and thorough examinations ever conducted of one psychic detective's claims.

A few weeks later, Tsakiris contacted me with the Amie Hoffman murder case. I had never heard of either it or Nancy Weber. Here, finally, I was being offered the rock-solid proof—one of the best cases, if not the best, in the world, according to Tsakiris. If I could solve this "best case" mystery, not only could Tsakiris no longer claim that skeptics avoid the best cases, but all other psychic detective cases—which according to Tsakiris are not as strong—would therefore be even more dubious.

Tsakiris referred to Weber's information in this case as "amazing" and "off-the-charts extraordinary." People who posted on *Skeptiko*'s Web site were also impressed. "Appears to be a slam dunk," wrote a man named Rod McKenzie; another wrote, "That was a lot of very specific information she gave." A New Zealand blogger named John Baylis (2007) wrote, "We watched on a recent TV documentary how brilliant psychic Nancy Weber solved a crime for the New Jersey State Police. . . . It cannot be explained in any other way. All of her clues were 100% correct!"

Interestingly, everyone involved—including Weber—admits that her information did not solve the case. According to New Jersey reporter Abbot Koloff (2006), "Law enforcement authorities who were in charge of the Koedatich case say Weber had no role in the investigation. . . . They say Koedatich was caught by old fashioned police work, a combination of his own mistakes, and an examination of the evidence." Still, Weber and her supporters believe that the information she gave regarding Koedatich was so amazingly accurate and specific that psychic ability is the only plausible explanation.

Psychic Detective Methods

Psychic detectives impress people by creating the illusion of accuracy and specificity. They make predictions that appear to be amazingly accurate, when instead they are general and vague. For example, psychic detectives will often say that a body will be found "near water." This seems very impressive until you realize that the bodies of most missing persons are found near some sort of water—a pond, a river, a reservoir, a ditch, a lake, an ocean, a swamp, a drainage or water pipe, and so on. (Of course, "near" is a relative term and could be interpreted to mean any distance from inches to miles.)

The burden of proof is not on me as a skeptical investigator to prove that Weber did *not* provide the "amazingly accurate" psychic information she claims; it is on Weber to prove she did. Tsakiris repeatedly failed to grasp or accept this fundamental principle, stating at the conclusion of the case that "the notion that somehow the burden of proof is greater on me than it is on you, I do not accept that at all."

And what evidence was produced to support this extraordinary claim? Virtually none, except for statements by Weber and the police. As I researched the case, I kept expecting Tsakiris to present me with some hard evidence that supported Weber's claims. The burden of proof in this case lies squarely with Weber (and by extension Tsakiris), and by any reasonable measure they failed to meet that standard from the outset. Three people's quarter-century-old memories are simply not adequate to establish proof of psychic powers.

Despite the weak evidence offered, was Weber's information really as inexplicable as it seemed? Did the police really support her claims? I wanted this "best case" to end up with something conclusive, coming as close as possible to either proving or disproving Weber's psychic claims.

Examining the Psychic Detective Claims

Because this case was complex and multifaceted, Tsakiris and I agreed to limit our investigation specifically to the information Nancy Weber gave regarding Hoffman's murder. Tsakiris (2008) noted, "I want to focus on and verify whether Nancy provided the investigators the first name of the perpetrator, when that name was not known to them; whether she provided information regarding the last name, that it had three syllables; was of Polish descent, ended in an 'itch' sound. I want to verify whether she provided information about him being a convicted murderer who had left Florida and returned to New Jersey, that he was originally from New Jersey."

Tsakiris interviewed all three principals and watched the TV show, concluding that "all three [Weber, Moore, and Hughes] agree that Weber provided information on the most important aspects of the incident. All three agree she provided: the first name, James; the last name, begins with a hard K; Polish/Eastern European descent, with an 'itch' sound on the end; [he was] from New Jersey; and was serving time in a Florida jail for murder." Indeed, the TV show suggests that Moore and Hughes support all of Weber's claims.

A Closer Look

Both police officers do generally endorse Weber's claim that she contributed accurate, seemingly psychic information about Amie Hoffman's killer. To Weber and Tsakiris, that is proof enough: two detectives back up her story. Case closed; it's a slam-dunk.

Yet, as in most investigations into supposedly paranormal phenomena, the devil is in the details. Claims that seem amazing and unexplainable at first glance are often far less impressive upon closer inspection. Because this case rests entirely on the memories of the three participants (any contemporaneous notes are long gone), in order to judge the validity of the information we need to look closely at what each says.

I consulted transcripts from both the *Psychic Investigators* TV show and the *Skeptiko* podcasts and interviewed all the principals at least once. As I reviewed the information from Sgt. Bill Hughes and Capt. Jim Moore, it became clear that—despite repeated claims to the contrary—their accounts differ

dramatically from those of psychic Nancy Weber. I will examine each claim in turn.[3]

1) Weber claims she specified that Hoffman's killer had served prison time in Florida: "He came up from Florida where he had been imprisoned for murder."

Moore agrees with Weber on this account, but Sgt. Hughes disputes it, telling me that Weber merely stated the killer "had served prison time in the *south*. . . . I don't recall her specifically saying that he'd done time in Florida, just that he'd done time in the south." In a later interview Hughes changed his mind and stated that Weber *had* in fact specified Florida.[4]

2) Weber claims that she specified of Hoffman's killer that "his last name begins with a K."

Unfortunately for Nancy Weber, Moore and Hughes dispute her story. Sgt. Hughes said, "I don't specifically recall her coming up with the 'K.'" Capt. Moore remembers Weber telling him that the killer had "a hard 'K' in his name"—not that the killer's name *begins* with a K but instead that there's a "hard K" *somewhere* in the name.

Three different people provided three different recollections. Which do we believe? Did Weber specify that the killer's last name began with a K, as she claims? Or did she not tell the police that detail, as Hughes remembers it? Or did she tell only Moore that there was a "hard K" somewhere in the name, as Moore recollects?

3) Weber claims that she specified that Hoffman's killer's "last name . . . ends in an 'ish.'"

Neither Hughes nor Moore can confirm that Weber gave them that information. According to Sgt. Hughes, "I don't specifically recall her coming up with the 'ich' [in the name]." Moore agrees: "To be honest with you, I don't remember [Weber saying the killer's last name] ends with 'ich.'"

4) Weber claims that she specified that Hoffman's killer was of Polish decent and that "his last name is Polish."

Both Moore and Hughes dispute Weber's claim that she told them the serial killer was Polish. Instead, Hughes (2009) says, Weber said the killer "was of Eastern European descent." Moore corroborates Hughes's recollection: "Eastern European. That is *exactly* what she said to me." Interestingly, Hughes's account changed over time: in Weber's 1995 book he stated, "She . . . said he was Czech or Polish" (166).

Hughes told me that Weber's information was far too vague to be of use: "Eastern European descent—maybe Slovak, or Russian, or Romanian. Again, you're talking about thousands of names. Where do you begin? . . . [She] narrowed it down from 275 million people in the United States to maybe 30 million."

5) Weber claims that she specified that "the man who did this, his first name is James."

In this case, Moore's memory agrees with Weber. But Weber and Moore are contradicted by Sgt. Hughes, who stated, "She didn't have complete names for us. . . . I do not remember the first name at all." Which is it? Did Weber provide the first name "James" or didn't she? Is it likely that Hughes would have forgotten such a specific, complete name? Or did Weber give that information only to Moore, who inexplicably failed to tell his partner that the man they were looking for was named James?

It seems that the two police officers—despite proclaiming their general belief in Nancy Weber's psychic abilities—contradict virtually every specific claim she made. Remarkably, Tsakiris, even after being presented with direct quotes, transcripts, and live interviews, refused to admit that the three eyewitnesses' stories were anything but rock solid: "This is silly," he told me. "None of these things are inconsistent. They do not refute what she was saying. . . . This is just meaningless minutia that gets in the way of really looking at the big picture." It is the psychic's word against the police, and since we have no record of what Weber told them, there is no way to be certain who is accurate (though of course the police are far more credible than the psychic).[5]

Catching the Killer

A final nail in the coffin for this "best case" comes from an even stronger piece of evidence proving that the information Nancy Weber gave police in 1982 was not as specific as she now claims. Weber said she told Moore and Hughes that Hoffman's killer lived nearby in the Morris area, that his first name was James, that his last name began with a K and ended with the suffix *–ich*, and that he had served prison time in Florida for murder, and so on. If Weber is telling the truth, and the police had so many specific, accurate, identifying details about the killer, it is baffling that they weren't able to find and arrest Koedatich before he killed again.

I know this because I tracked down the serial killer using Weber's information. With the help of Joyce Leuchten, an assistant living in the area, I obtained a copy of the New Jersey Bell phone book for the Morris area from July 1982. I went through all the last names that began with K and ended in *–ich* and whose first initial was J. It took about twenty minutes, and I found a grand total of four names (from two families) that fit the criteria. On page 252, in the middle of the second column, are listings for Koedatich—the serial killer's brother Joseph and their father (see Figure 1). Weber also claimed that she told police that the killer's brother worked at (or owned) a gas station. If that is true, then the detective could have confirmed the validity of this lead with one question. Weber's information would have led Moore and Hughes directly to Koedatich's door (or at least to his family's door).

Even if all the police knew was that the killer was a parolee who had done time in a Florida prison for murder, one phone call to the local parole board could have solved the case. One wonders why Nancy Weber herself—if she was so concerned about stopping the killer, knew he would kill again, and was so confident in her psychic information—didn't spend a few minutes looking in the phone book to save an innocent young woman's life.

The principle of Occam's razor prompts us to ask: Is it more likely that the police detectives had the "amazingly specific"

information Weber claims (but both somehow forgot most of it and were not competent enough to use it to find the serial killer) or that Weber is wrong about what she told police in1982?

Fuzzy Memories

Alex Tsakiris, like many proponents of paranormal phenomena from Bigfoot to UFOs to ghosts, places a high value on the accuracy of eyewitness testimony and memory—especially that of police officers. Both Moore and Hughes were very sincere and forthcoming, freely admitting when they could not remember. In our final interview, Hughes (2009c) discussed the difficulty in accurately remembering the specific details upon which the case hinges: "We have discussed this so many times and have done so many shows over and over a period of time. I have heard Jimmy Moore say, well, he remembers this,

277-2972 Koechlin R J 50 SalemRdNewProv 464-30
347-6047 Koechlin R J 64 SummitRdMuryHl 464-53
822-3006 Koeck A M
347-7621 49-28 MtPleasantVillageMrsPl 285-08
627-2995 Koeck Chas LakesideAvLkHptcg 398-29
347-1035 Koeck John W ParkAvNolnPt 663-30
627-0711 Koeck Paul 25 GatheringRdPnBk 575-64
334-0747 Koeck Paul 10 RayPrspy 335-73
464-0634 Koeckert R LakeDrLkLakwna 347-37
Koedatich Jos M 3 TuckerAvDvr 895-42
822-3003 Koedatich K 3 NalronDrLedgwd 584-18
884-2382 Koefoed P 3 PepperRdTwco 263-39
464-2167 Koegler Fred 9 LenapeDrLkValhla 335-68
361-0746 Koegler J 216 EverettRdLkPrspy 887-95
386-9107 Koegler Robt C 36 FrederickPlMrstwn 539-45
879-7343 Koehl Harald & Irene
663-0342 59 GalwayDrMendm 543-67
766-6691 KOEHLER See Also KOHLER
584-0490 Koehler A 18 JayRkwy 627-46
Koehler A Jr 9 BuddLedgwd 584-48
766-7587

Figure 1. The author located the serial killer in a phone book using information Nancy Weber claims she told police in 1982; yet the police were unable to use her information to find him.

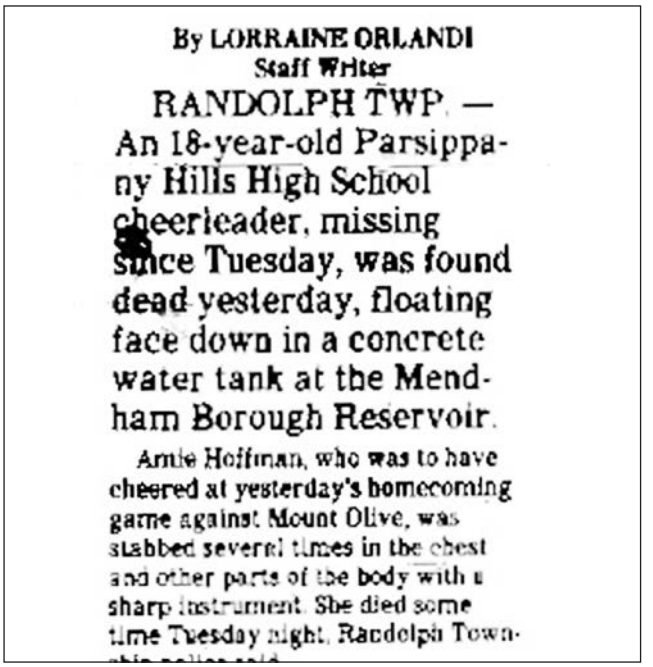
and Nancy says I remember that, and sometimes it's hard to separate what I specifically remember of the incident when we were there, and what I just remember hearing from all of the interviews that we have done."

Hughes's admission provides keen psychological insight into the problem. When people remember events, they actually reconstruct them each time. Decades of psychology studies show that human memory is remarkably fallible. The brain is not, as many suppose, a sort of tape recorder that accurately preserves what we experience. Instead, memories change over time—especially if, as in this case, the three have repeated the stories and heard each other tell their versions. If anything, it's remarkable that their accounts are not more similar.

Weber Caught in a Lie

One reason Moore and Hughes said they initially put stock in Weber was that she claimed to know details of Hoffman's murder that had not been made public (such as that Hoffman had been stabbed to death). For example, in her book *Psychic Detective* (1995), Weber states, "The next day [after the murder] I went out to my driveway to pick up my newspaper, and read, 'Body of Amy [*sic*] Hoffman found in a water tank in a wooded area of Randolph.' As I read the account it went on to say the body was fully clothed and there was no indication of rape or any marks on the body." In an interview on the *Skeptiko* podcast, Weber told Alex Tsakiris (2008b), "I knew the newspapers reported Amie's body was found clothed and they couldn't determine death. That's the truth."

Actually, that's *not* the truth. A search of newspaper archives reveals that the day after Hoffman's body was found, November 26, the press did indeed report that she had obvious wounds that caused her death: *The New York Times* quoted a Detective Lieut. James McLagan as saying "she was stabbed to death," adding that Hoffman had several wounds ("Missing" 1982), and the front page of the *Daily Record* (a newspaper Weber read and which she


By LORRAINE ORLANDI
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RANDOLPH TWP. — An 18-year-old Parsippany Hills High School cheerleader, missing since Tuesday, was found dead yesterday, floating face down in a concrete water tank at the Mendham Borough Reservoir.

Amie Hoffman, who was to have cheered at yesterday's homecoming game against Mount Olive, was stabbed several times in the chest and other parts of the body with a sharp instrument. She died some time Tuesday night, Randolph Town-

Figure 2. Information about Amie Hoffman's murder published in the *Daily Record*, which Nancy Weber claimed she knew using her psychic powers.

reprints in her book, see Figure 2) stated that Hoffman had "been stabbed several times in the chest and other parts of the body" (Orlandi 1982). Weber claims to have had psychic details about Amie Hoffman's murder that were unknown and not reported in the press, when in fact those details had been widely reported on the front page of the local newspaper and in *The New York Times*. Passing off details about the murder she read in the newspaper as "psychic information" only further damages her credibility.

Psychology Solves the Case

Weber's claim is typical of how psychic detectives use a technique called retrofitting to make their predictions appear amazingly accurate. Once the answer or the specifics of the case are known, the psychic retroactively refines the original predictions. Once Hoffman's killer was arrested, pieces of his

biography and past were picked through in a search for any information that matched Weber's predictions. It turns out Koedatich had spent time in a Florida prison, so Weber remembers that she told the police that fact earlier, when instead one of the officers remembers her telling them only that he had done time in "the south."

I doubt that Nancy Weber consciously changed her story to make her psychic information seem more accurate than it was. Instead, it is more likely that she and the police were so convinced of her powers that they simply fell prey to a common psychological mistake called confirmation bias. We all do it: we seek out information that confirms our beliefs, and we tend to remember the hits (the things we get right) and ignore the misses (the things we get wrong).

The police officers' notes are long gone, Moore having thrown his away around 2002. The Amie Hoffman case file is not available, and there are no other records of Nancy Weber's information, as she inexplicably refuses to keep notes about her information. This investigation began with my specific request for the "best case" for psychic detectives, a phrase which became a sore point for Tsakiris.

This was a fascinating case for me on many levels and took about nine months of research and investigation. It was an interesting intellectual challenge to tackle the "best case" for psychic detectives (and one which, at first glance anyway, was corroborated by police officers). Seeing Tsakiris's obstinate refusal to acknowledge the gaping holes in his evidence and arguments was very instructive. Skeptics and believers can look at the exact same evidence and testimony yet approach the topic from very different points of view.

Hopefully this case can stand as an example of what can be discovered through thorough investigation and detailed analysis. In fact, as I concluded this investigation I was contacted by a professor at Western Washington University, John Farquhar, who had been following my research on the *Skeptiko* podcast. He teaches a course on skepticism and critical thinking and is using this investigation as a case study for his students on how to analyze unusual claims.

Tsakiris stated that "sometimes the claims that skeptics make can really test the limits of common sense and reason." In this case—the "best case" for psychic detectives—it seems that common sense and reason are on the side of the skeptics. □

Acknowledgments

My research into this case was aided by Joyce Leuchten, who provided important library research, and Blake Smith, who offered suggestions and organized audio segments and transcripts.

Notes

1. Weber's credibility was called into question when I read the following statement on the back cover of her book: "In 1972 she studied psychotherapy at the Center for Feelings and Creativity." An Internet search turned up only one reference to a "Center for Feelings and Creativity," a workshop given in 1978. If Weber "studied psychotherapy" there in 1972, it seems odd that the only reference to it doesn't appear until 1978, six years later. If the Center is (or was) a legitimate school, college, or learning institution, it seems that no one else attended, studied, worked, taught, or graduated. I suspect that the Center is either a diploma mill or some friend's made-up "college."

2. Amie Hoffman was only one of many unsolved homicides in the area at the time. In fact, the Morris County Prosecutor's Office was dealing with a half-dozen other unsolved murders (Sperling 1982). If Weber's information was as amazingly accurate as she now claims, it seems odd that she was not asked to help in those other investigations.

3. Readers can listen to audio excerpts of the interviews prepared by Blake Smith and myself. The audio files are available online at www.radfordbooks.com/psychicdetectiveinterviews.html and at www.csicop.org/SIExtras.

4. Of course, "the south" can be interpreted in several different ways. It might mean the part of the United States thought of as "the South," including Louisiana, Mississippi, Alabama, Florida, Georgia, Tennessee, Texas, Arkansas, North Carolina, South Carolina, Virginia, Delaware, and Maryland. Or the psychic might say, "No, I meant south of *here*"; in that case, south of New Jersey would include about forty-five states, the vast majority of the country. The psychic, of course, benefits from as broad an interpretation as possible.

5. Interestingly, Weber (2009) acknowledged that Hughes did not recall her specifying that the killer's first name was James, that he came from Florida ("Yes, he does not recall it but. . . . If he said he does not recall, it does not mean I did not say it; it means he does not recall it"), that neither Hughes nor Moore remember her specifying that the killer's last name ended with *–ich* or that he was Polish. So on at least four of the five main issues, Weber herself admits that one or both of the police officers contradict her story.

References

Authorities arrest suspect in one of three slayings. 1983. AP story in the *Daily Intelligencer*, January 19.

Bayliss, John. 2007. Brilliant psychic detective converts hard core skeptics. November 16. Blog post available online at www.victorzammit.com/archives/June2006.html.

Granville, Kevin. 1982. Disappearance stuns cheerleader's friends. *Daily Record*, November 25.

Hambling, David. 2008. Re-making memories. *Fortean Times* 243, December, p.14.

Harpster, Richard. 1982. Suitor theory pursued. *Daily Record*, November 27, p. 3.

———. 1982. Cops sketch Amie suspect. *Daily Record*, December 10.

Hughes, Bill. 2008a. Quoted in Tsakiris 2008a.

———. 2009b. Interview with Benjamin Radford, February 18.

———. 2009c. Quoted in Tsakiris 2009.

Koloff, Abbott. 2006. A killer, a psychic, and conflicted memories. *Daily Record*, June 3.

Moore, James. 2008a. Quoted in Tsakiris 2008a.

———. 2008b. Interview with Benjamin Radford, February 17.

———. 2009. Quoted in Tsakiris 2009.

Missing Jersey cheerleader is found stabbed to death. 1982. *The New York Times*, November 26.

New Jersey Bell. 1982. Morris Area telephone book, July.

Norman, Michael. 1982. Suitor clue is reported in Jersey slaying. *The New York Times*, November 27.

Orlandi, Lorraine. 1982. Missing cheerleader found dead. *Daily Record*, November 26, A-1.

Posner, Gary. 2005. Police chief misleads viewers on Psychic Detectives. SKEPTICAL INQUIRER, November/December 29(6).

Biography Channel. 2006. *Psychic Investigators* television show. Season 1, episode 2, air date March 17.

Radford, Benjamin. 2008. The White Witch of Rose Hall. *Fortean Times* 239, September.

———. 2009. Ghosts, doughnuts, and *A Christmas Carol*. SKEPTICAL INQUIRER, May/June 33(3): 45.

Sperling, Ed. 1982. Unsolved crimes plague prosecutor. *Daily Record*, November 28, B-1.

Tsakiris, Alex. 2008a. *Skeptiko* transcript 58: Psychics and police, November 23.

———. 2008b. *Skeptiko* transcript 77: Nancy Weber, February 17.

———. 2009. Interview with Benjamin Radford, Nancy Weber, Jimmy Moore, and Bill Hughes. *Skeptiko* transcript 69: Psychic Detective Smackdown, Ben Radford. March 18. Available online at www.skeptiko.com/transcript-69-psychic-detective/#more-133\.

Weber, Nancy O. 1995. *Psychic Detective: The True Story of Psychic Detective Nancy Orlen Weber*. Self-published, Denville, NJ: Unlimited Mind Publications.

———. 2008. Quoted in Tsakiris 2008b.

———. 2009. Quoted in Tsakiris 2009.

More Online!

Listen to Nancy Weber, Alex Tsakiris, and police detectives Jim Moore and Bill Hughes discuss this case in their own words! Read transcript excerpts and hear the original interviews at **www.csicop.org/SIExtras.**

Psychic Defective
Sylvia Browne's History of Failure

The most extensive study of alleged psychic Sylvia Browne's predictions about missing persons and murder cases reveals a strange discrepancy: despite her repeated claim to be more than 85 percent correct, it seems that Browne has not even been mostly correct about a single case.

RYAN SHAFFER and AGATHA JADWISZCZOK

One difficulty in judging the accuracy of psychics is the vagueness of their readings, which are often so general that they are worthless. Psychics who offer readings about missing persons and murder cases, however, allow researchers to examine their accuracy with independent information. When Sylvia Browne was a weekly guest on *The Montel Williams Show*, she performed supposed feats ranging from ghost detecting to offering details about missing persons and murder cases. Among the things Browne failed to predict was the availability of those transcripts on the Internet through databases such as LexisNexis. The authors, as well as several members of the James Randi Educational Foundation forum and StopSylvia.com, closely

examined each transcript to track Browne's accuracy. According to Browne, "my accuracy rate is somewhere between 87 and 90 percent, if I'm recalling correctly." This article disputes that statistic by examining the criminal cases for which Browne has performed readings. The research demonstrates that in 115 cases (all of the available readings), Browne's confirmable accuracy was 0 percent.

This article is structured in terms of known and unknown outcomes. The criteria for a correct prediction is that it mostly matches a case referenced in a newspaper, and the criteria for a wrong prediction is that Browne's claim is the opposite of what actually occurred. The metric for the final accuracy count is based on what is correct compared to the unknown or wrong claims. As this article shows, in the 115 available cases Browne was correct zero times and wrong twenty-five times. Ninety out of the 115 cases have unknown outcomes. A previous examination of thirty-five cases Browne made predictions about was published in *Brill's Content*. The magazine concluded: "In twenty-one, the details were too vague to be verified. Of the remaining fourteen, law-enforcement officials or family members involved in the investigations say that Browne had played no useful role." This article greatly expands the scope of the *Brill's Content* article by looking at Browne's comments to the press and on television about missing persons and criminal cases. No case was excluded. We have listed each case Browne made predictions about as well as provided a reference or broadcast date. When we began to research this, we expected Browne to have been correct at least a few times, but as the list demonstrates, she was not. The references show that the only cases in which Browne was not proven wrong are those that remain unsolved.

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Cases Sylvia Browne Was Wrong About

List of cases Sylvia Browne made predictions about. The names are given in alphabetical order with brief descriptions of Browne's predictions and the facts of the case.

1) Erica Baker. November 19, 2003, on *Montel*. Browne told Erica's mother "she's not dead" but in Michigan. Furthermore, Browne claimed someone "sold her for drugs," and "there was a black woman" who helped "throw" her in an "old truck." In 2005, Christian John Gabriel was convicted of moving and concealing Erica's body in Kettering, Ohio. Her body was not found, but Gabriel claimed to have buried it after hitting her with his "van."[1]
2) Jamie Barker. In February 2001 on *Montel*. Two months after Barker fell from a bridge while working, Browne told his widow he died "quick" and his body is "on the site, there's no doubt about it," but they won't find it "unless they dig and I don't think they will."[2] Two months later Barker's body was discovered downstream in LaSalle. An autopsy discovered he "suffered no broken bones or head injuries in the 15-storey fall," but instead drowned.[3]
3) Eve Brown. September 30, 1999, on *Montel*. Browne told the family "that Eve Brown is well and living in Florida."[4] This was not true, as Eve's body was found a year later at a Brooklyn, New York, construction site thirteen miles from where she was last seen.[5] The murder remains unsolved.
4) Terrence Farrell. Browne told a woman that Farrell, a firefighter involved in 9/11, was alive.[6] She was wrong. His body was found in the rubble one month later.[7]
5) Erica Fraysure. September 24, 1998, on *Montel*. Erica went missing in 1997. Browne did a reading for her mother, saying she was in water and someone named "Chris" killed her. The following day, Erica's ex-boyfriend, Chris Mineer, killed himself. Police said Chris's alibi checked out, and he was not a suspect. Chris's mother sued Montel Williams, his producers, Paramount Pictures, and Viacom Inc., but the case was eventually dismissed. After the broadcast, the police searched the nearby lakes and found nothing. Police say Erica is still a "missing person" and continue to investigate.[8]
6) Robert Hayes. April 26, 2006, on *Montel*. (See description in this article.)
7) Shawn Hornbeck. February 26, 2003, on *Montel*. Browne told Shawn's parents he was dead, but he was found alive in 2007.[9]
8) Sharon James's son. Discussed January 19, 2007, on CNN's *Anderson Cooper 360*. Browne claimed she located James's son, but James was not so positive and would not have used Browne's service in hindsight.
9) Opal Jo Jennings. April 29, 1999, on *Montel*. (See description in this article.)
10) Ryan Katcher. February 11, 2004, on *Montel*. Katcher went missing and Browne told his mother "two boys got terribly frightened" then "dropped him" in "a metal shaft of some kind." Browne further said he is "still in the shaft" "close to twenty-five, twenty-six, maybe twenty-seven miles from where you would be." On July 25, 2006, police found Ryan in his truck under water in a pond, and an autopsy showed he was under the influence. According to a discussion with Ryan's mother on StopSylvia.com, Browne got more details wrong, but those parts were edited before the broadcast.
11) Richard Kneebone. According to Teresa Kneebone, Browne "said she feels he's not dead and that he could be traveling in Canada . . . and have partial amnesia."[10] His "badly decomposed body" was found July 7 a "few blocks" from the tavern where he was last seen in San Jose, California.[11]
12) Holly Krewson. November 27, 2002, on *Montel*. (See description in this article.)
13) Angie Lee. March 28, 2007, on *Montel*. Browne told Angie's mother, "It's a serial killer" who killed a college girl that was responsible for Angie's stabbing death and "there's a knife somewhere in that immediate location that may have DNA, may have some sort of evidence on it." In 2008, Anthony Ashby pleaded guilty to her murder, and the motive for the crime was "home invasion and residential burglary." Furthermore, a knife was not part of the evidence. DNA evidence from Ashby's gun and witnesses caused him to plead guilty.[12] The law enforcement involved remarked, "The psychics did not provide any substantive leads."[13]

14) Chandra Levy. July 17, 2001, on Fox News. Browne said Levy's body was in "some trees down in a marshy area." She made this prediction when it was public knowledge that police were searching Rock Creek Park since someone used Chandra Levy's computer to find directions to that park.[14] Benjamin Radford noted, "The remains were found across a steep incline in a heavily wooded area—perhaps near some trees but clearly not 'in a marshy area,' since a marsh located on an incline is geographically impossible."[15]

15) Lynda McClelland. March 13, 2002, on *Montel*. Browne said McClelland "is not dead" but in Orlando, Florida, taken by a man with the initials "MJ," and her family would find her soon. One year later, in March 2003, McClelland's body was discovered near her home in Pennsylvania. David Repasky was convicted of the murder after witnesses testified Repasky strangled her.[16]

16) Ashley Ouellette. In February 2000 on *Montel*. According to the Associated Press, "Browne said Ouellette's killing will be solved within a year and two months."[17] According to the Scarborough Police Department, the crime is still unsolved.[18]

17) Lori Pleasants. September 10, 2003, on *Montel*. Browne said Pleasants was "killed by a stalker" who got "kicks out of that," but there was "not necessarily DNA" at the scene and "he was wearing gloves." In 2006, William Gutersloh, Pleasants's friend, admitted to killing Pleasants after the police found DNA that linked to him.[19] While on the stand, he told jurors he wiped the knife clean to avoid leaving fingerprints.[20]

18) Scott Renquin, Dan Nelson, and Roger DesVergnes. March 1999 on *Montel*. According to the Associated Press, Browne "told the families their loved ones had died in a boating accident near the Everglades in a hovercraft. She gave them the name of a man who allegedly owned the boat."[21] Police followed Browne's leads and found nothing. Later, their bodies were discovered in their SUV in a drainage retention pond. Authorities believe they missed a sharp turn at the unlighted corner and their car flipped into the water.[22]

19) Weyman Robbins. May 7, 2003, on *Montel*. On Robbins's murder Browne said, "This was other kids. They were playing this stupid game." She further claimed, "There were two or three other kids that did it," but "I don't think the kids meant to" and "one of the—the kids is named Danny." Weyman's uncle strangled him in front of his sisters and was convicted of murder.

20) Sago Mining Disaster. Browne first said she knew the miners would be found alive. During the live radio broadcast she appeared on it was announced all except one were dead.[23,24] After the announcement, she later said, "I don't think there's anybody alive, maybe one."

21) Dana Satterfield. February 1997 on *Montel*. Browne said the murderer was an out-of-state construction worker that "has no connection to Satterfield, choosing her on a whim."[25] Nine years later, Jonothan Vick was convicted of the murder following witness and DNA evidence. Vick was a local high school student who attempted to go on dates with Satterfield, but she rejected his advances.[26]

22) Shannon Sherrill. November 19, 2003, on *Montel*. Browne claims Sherrill, who went missing in 1986, was "brainwashed and raised in a different family" but "is alive," and the case will "break open" soon. As of 2009, Sherrill's whereabouts are unknown and the case is unsolved.

23) John Slayton. May 14, 2003, on *Montel*. Browne said "indigents" killed Slayton, and his body was disposed in water and would not be found. In June 2003, Slayton's body was found in shallow grave. In 2006, his killers, a pawnbroker and his son, were found guilty of the murder.[27]

24) Richard Torres. October 20, 2004, on *Montel*. Browne told Torres's widow that she would have a healthy baby boy. The June 28, 2005, update on *Montel* reported the baby was a girl and died five months premature. However, the segment omitted Browne making any prediction about the pregnancy.

25) Terry Webb. October 20, 1997, on *Montel*. According to the *Pittsburgh Post-Gazette*, "His daughters said Browne told them she believes he was killed six months after he disappeared and that his body is buried somewhere at Fort Bragg."[28] At the time of the reading, Webb had been listed as AWOL and was missing since 1991. In 2004, his body was eventually found buried "under a shed in Fayetteville."[29] In 2006, the suspect pled guilty, saying "he shot Webb in self-defense when he sexually assaulted him" and was given three years in prison.[30] After the arrest, Montel did a follow-up on September 15, 2004, but the segment omitted Browne giving any specifics, including the location of Webb's body.

Of the 115 cases reviewed with LexisNexis and newspaper sources, Browne was wrong in twenty-five, and the remaining ninety either have no available details outside of the transcript or the crime is unsolved, leaving no way to confirm Browne's claims. The following data is organized as a list to allow the reader to conduct independent research. One should keep in mind that Browne claims to be at the top of her game. In June 2009, Browne told *Seattle Weekly* about her psychic ability: "I think you get better, like anything else you get better with time." The authors welcome Browne to supply independent proof of even one case about which she was correct.

Browne's predictions have a history of being wrong or unhelpful. In the course of this research, we examined a variety of sources to study Browne's involvement with law enforcement. Browne was sometimes paid by families of the victims, charged at least one police department $400, and received money as well as publicity from her appearances on television. She is a member of the American Federation of Television and Radio Artists and, as reported in 2004, earned a minimum of $847 for each talk show appearance. Yet in all these cases, Browne has never supplied independent proof that she has ever helped law enforcement. More than that, she is repeatedly wrong. During the Sago Mining Disaster, she claimed the miners were alive when they were actually dead. She also said Richard Kneebone was alive in Canada, but his decomposed body was discovered a few days later in California. More recently, she predicted that a 9/11 firefighter was alive, but his body was found in the World Trade Center rubble two weeks later.

Sometimes Browne is not only wrong but also tells suffering families horrible things. In 1999, Browne did a reading for Opal Jo Jennings' grandmother, who wanted to know what happened to Jennings, a six-year-old abducted from her front yard in Texas. Browne told the grandmother, "She's . . . not . . . dead. But what bothers me—now I've never heard of this before, but for some reason, she was taken and put into some kind of a slavery thing and taken into Japan. The place is Kukouro. Or Kukoura." Browne was wrong. Child molester Richard Lee Franks was charged with the kidnapping that same year and convicted the following year. Jennings' remains were discovered in 2003. Medical examiners concluded that "Opal was killed by trauma to the head with[in] several hours of her abduction."

Missing person Holly Krewson was a similar case, one in which Browne needlessly tainted the memories of a family's loved one on national television. In 2002, Browne told Holly's mother, "She is in Los Angeles, and when she was calling you, she was on drugs. But she's still alive." Browne also said that the girl was a dancer in an "adult entertainment nightclub," and "you might get a Christmas card postmarked Los Angeles." Holly's family made regular visits to the Los Angeles area, scanning the clubs for their missing loved one, but to no avail. Holly's mother, Gwendolyn Krewson, died of an aneurysm in 2003. Three years later, Holly's body was identified. As it turned out, Holly was murdered, and her body was discovered in 1996. The remains were only identified as Holly in 2006, after sitting in the medical examiners office for ten years. Needless to say, Browne was completely wrong in every aspect

of the case and hurt an already devastated family.

In a 2006 appearance on *Montel*, Browne did a reading about Robert Hayes, who was serving in the Army National Guard when he was killed at an ATM. Browne told Hayes's crying fiancée that he met a man at a casino who "took Hayes," then robbed him to get the casino winnings. The police later found that although Hayes told his fiancée he was going to a casino, he actually went to meet another woman, and there are no reports in the press about him being at a casino. In fact, Hayes was the victim of a conspiracy by four people, including a local beauty queen, who lured Hayes to meet her so they could rob him. Browne said Hayes was shot three times "in the head, chest, and

Among the many harmful things that Browne does is convince the loved ones of victims of untimely deaths that foul play was involved and, conversely, convince the loved ones of murder victims that no foul play was involved.

over to the side," to which the fiancée replied, "I didn't know he was shot in the head. The police never said that." The fiancée then added, "The police said he got shot in the hand." When asked if the case would be solved, Browne said, "Yeah, but it's gonna take them at least a good two years." However, the police announced they arrested four people in connection with the murder on April 11, 2006. The first airing of Browne's predictions occurred on April 26, 2006. Browne was wrong about who did it, the conspiracy, where he was shot, who was involved, and when the case would be solved. By October 2007, three of the suspects pled guilty and were sentenced for Hayes's murder. *The Montel Williams Show* and other media outlets have been silent about this and other cases. In fact, a full transcript of this show no longer exists on LexisNexis; instead, there is only a brief summary that excludes the aforementioned details. The authors had to seek the transcript and video by other means to include the details in this article.

Browne's failures are too extensive to explore in detail here, and more famous ones, such as the Shawn Hornbeck case, have been explored in this magazine before. For the sake of brevity, we have compiled a list of names of people Browne has performed readings about. Some of the cases marked "unknown" were already *de facto* solved by law enforcement. They know who most likely committed the crimes, but the suspects were never brought to justice and the cases went "cold," so they are still officially unsolved and open. In other cases, Browne was consulted to confirm the families' suspicions, determine how to bring the likely perpetrator to justice, or provide more information. This makes her predictions even less impressive, as she is "solving" exhausted cases that the police have already in large part solved and about which she can say almost anything, since any new developments are

Cases Sylvia Browne Made Predictions About That Have Non-confirmed Outcomes

1) Manuel Archambault. May 5, 2004, on *Montel*.
2) Crystal Arensdorf. April 2002 on *Montel*.
3) John Baglier. January 10, 1997, on *Montel*.
4) Michael Berrios. September 14, 2005, on *Montel*.
5) Amanda Berry. November 17, 2004, on *Montel*.
6) Johnia Berry. May 21, 2008, on *Montel*.
7) Molly Bish. September 17, 2003, on *Montel*.
8) Acacia Bishop. February 11, 2004, on *Montel*.
9) Jackie Blair. On *Montel*.[31]
10) Lori Bova. On *Montel*.[32]
11) Kevin Brown. November 20, 2002, on *Montel*.
12) Charles Rhodes Campbell. February 19, 2003, on *Montel*.
13) Jose Concepcion. November 19, 2003, on *Montel*.
14) Rachel Cooke. February 26, 2003, on *Montel*.
15) Nicholle Marie Coppler. November 27, 2002, on *Montel*.
16) Joshua Wayne Crawford. September 14, 2006, on *Montel*.
17) Jerry Cushey Jr. On *Montel*.[33]
18) Alexandra Ducsay. October 11, 2006, on *Montel*.
19) Michael Emert. February 18, 2004, on *Montel*.
20) Jill Lyn Euto. In July 2002 on *Montel*.
21) Miranda Fenner. Feburary 22, 2006, on *Montel*.
22) Anwa Abb Ford. May 4, 2005, on *Montel*.
23) Frank Forte Jr. September 6, 2006, on *Montel*.
24) Ashley Freeman and Laura Bible. November 5, 2002, on *Montel*.
25) Cecilia Garcia.[34]
26) Joshua Guimond. February 11, 2004, on *Montel*.
27) James Harris. In September 2003 on *Montel*.
28) Sherri Hassett. May 14, 2003, on *Montel*.
29) Jason Henderson. September 17, 2003, on *Montel*.
30) Adrienne Heredia. In September 2006 on *Montel*.
31) Audrey May Herron. September 17, 2003, on *Montel*.
32) John Valentine Hope. May 30, 2007, on *Montel*.
33) Hunter Horgan. Browne was paid $400 by police for a half-hour reading about Horgan's murder.[35]
34) Girly Chew Hossencofft. Browne said her body was in mineshaft.[36]
35) Patrick and Katelynn Hubbard. May 12, 2004, on *Montel*.
36) Wendy Hudakoc. May 8, 2002, on *Montel*.
37) Dustin Ivey. February 16, 2005, on *Montel*.
38) George Erik James. October 19, 2006, on *Montel*.
39) Sharon Jones. February 26, 2003, on *Montel*.
40) Douglas Jones. February 28, 2007, on *Montel*.
41) Steven Kraft. November 5, 2002, on *Montel*.
42) Donnie Kilby. October 29, 2003, on *Montel*.
43) Kristine Kupka. On *Montel*. Her sister discussed her appearance with Browne on ABC's *20/20*, hosted by John Stossel, on March 22, 2004.
44) The Langstons. October 21, 2002, on *Montel*.
45) Amanda Lankey. February 8, 2006, on *Montel*.
46) Kristin Laurite. November 20, 2001, on *Montel*.
47) Taurean Lewis, Terry Canty Jr., and Anthony Collins. October 20, 2004, on *Montel*.
48) Brookley Louks September 27, 2002, on *Montel*.
49) Nancy MacDuckston. November 19, 2003, on *Montel*.
50) Christopher Mader. November 30, 2005, on *Montel*.
51) Gail Matthews and Tamara Berkheiser. November 9, 2005, on *Montel*.
52) Marin assault case. I spoke with the police who said Browne worked on the case and it remains unsolved.[37]
53) Frank Mazzella. October 2, 2002, on *Montel*.
54) Louise Melgoza Macias.[38]
55) Tristan Meyers. February 11, 2004, on *Montel*.
56) Dena McCluskey. February 26, 2003, on *Montel*.
57) Niqui McCown. November 5, 2002, on *Montel*.
58) Salvatore Minichiello. May 25, 2005, on *Montel*.
59) Anitra Mulwee. April 30, 2003, on *Montel*.

60) Michael Negrete. February 26, 2005, on *Montel*.
61) Jacqueline Elaine Nix. February 9, 2005, on *Montel*.
62) Michelle O'Keefe. November 2, 2000, on *Montel*.
63) Janice Powers. Browne had an interview with the sheriff's department.[39]
64) Shamika Riley. July 6, 2005, on *Montel*.
65) Rochelle Robinson and Michael Johnston. July 13, 1994, on *Montel*.[40]
66) Christopher Scarbell and C.J. Scarbell. September 10, 2003, on *Montel*.
67) Jan Scharf. September 17, 2003, on *Montel*.
68) Tina Sinclair. November 19, 2003, on *Montel*.
69) Jonathan Skaggs. July 6, 2005, on *Montel*.
70) Bryan Keith Smith.[41]
71) Erica Heather Smith. November 24, 2004, on *Montel*.
72) Tammie Smith. October 20, 2004, on *Montel*.
73) John South. November 27, 2002, on *Montel*.
74) Leah Tagliaferri. November 26, 2003, on *Montel*.
75) Ryan Thompson. March 13, 2002, on *Montel*.
76) Yvonne Torch. November 30, 2005, on *Montel*.
77) Tabitha Tuders. February 18, 2004, on *Montel*.
78) Max Uffelman. October 21, 2002, on *Montel*.
79) Anthony Urciuoli. January 31, 2002, on *Montel*.
80) Terressa Lynn Vanegas. March 21, 2007, on *Montel*.
81) Pat Viola. February 11, 2004, on *Montel*.
82) Leanna Warner. November 19, 2003, on *Montel*.
83) Elizabeth and Nicole Watkins. September 24, 2003, on *Montel*.
84) Lindsay Wells. February 26, 2003, on *Montel*.
85) Amber Wilde. In July 2000 on *Montel*.[42]
86) Carrie Ann Williams. November 9, 2005, on *Montel*.
87) Gina Williams. November 5, 2002, on *Montel*.
88) Sherita Williams. September 15, 2004, on *Montel*.
89) Wayma White. April 30, 2003, on *Montel*.
90) Carol Wood. April 11, 1997, on *The Sally Jesse Raphael Show*.

highly unlikely. On the other hand, some are official accidents and suicides that the families feared were actually murders.

Among the many harmful things that Browne does is convince the loved ones of victims of untimely deaths that foul play was involved and, conversely, convince the loved ones of murder victims that no foul play was involved. However, if the families are correct in their suspicions and these are actual murders, the last thing they need is a psychic involved in the case.

Conclusion

These 115 cases prove devastating to Browne's claims of helping police and families. It is hard to understand how someone with such a dismal record continually tops bestseller lists and maintains a following. In a 2000 interview, Browne explained it best: "I've always said to so many people you're only as good as your last reading. If you're not good, if you're not accurate, if you don't find missing people and you don't work with doctors and do health diagnosis with them then you're, you know, you're not good." Indeed, we agree on that point. Judging from Browne's lack of accuracy, it seems safe to conclude that, in her own words, she is "not good." If she could really help police, then one would expect a statistically significant number of cases to be solved using Browne's "predictions." The only question that remains is why people continually support and seek her advice. □

Notes

1. Rob Modic, "Conviction doesn't settle much in Erica Baker case," *Dayton Daily News*, October 9, 2005.
2. Donald McArthur, "Barker's body embedded in riverbed, psychic says," *Windsor Star*, February 22, 2001.
3. Sarah Sacheli, "Safety rope failed," *Windsor Star*, June 15, 2004.
4. Zachary Dowdy, "When all else fails, try a sixth sense," *Newsday*, October 6, 1999.
5. Al Baker, "Remains unearthed in Brooklyn are those of a missing woman," *New York Times*, November 25, 2000.
6. "Terrorist attacks: Marrow donor 'moved mountains,'" *Newsday*, September 16, 2001.
7. "Firefighter survives in girl who received bone marrow," *Los Angeles Times*, April 21, 2002.
8. Wendy Mitchell, "Erica Fraysure: Questions remain unanswered," *The Ledge-Independent*, October 20, 2005.
9. Benjamin Radford, "Sylvia Browne's biggest blunder," SKEPTICAL INQUIRER, May/June 2007.
10. Jack Foley, "No clues in Hollister man's disappearance," *San Jose Mercury News*, July 6, 1990.
11. Jack Foley, "Body found in Hollister is identified; coroner says man died of broken neck, injuries to head," *San Jose Mercury News*, July 11, 1990.
12. Maggie Borman, "Man pleads guilty, sentenced in Angela Lee murder," *The Telegraph*, November 12, 2008.
13. Maggie Borman, "Man faces charges in Angela Lee slaying," *The Telegraph*, April 27, 2007.
14. Joe Nickell, "Levy case a psychic failure," Center for Inquiry, March 11, 2009.
15. Benjamin Radford, "Psychics wrong about Chandra Levy," SKEPTICAL INQUIRER, November/December 2002.
16. Michael Fuoco, "N. Braddock man held in mother-in-law's killing," *Post-Gazette*, March 18, 2003.
17. "A year later, police call slaying 'very solvable,'" Associated Press, February 7, 2000.
18. Susan Kimball, "Ashley Ouellette murder investigation ongoing," WCSH-TV, February 9, 2009.
19. Owen Moritz, "DNA links cop's son to old slay," *Daily News*, October 10, 2006.
20. Shawna Morrison, "Trial in '00 death begins in Radford," *The Roanoke Times*, February 27, 2007.
21. Alison Fitzgerald, "Six months later, still no trace of missing Attleboro men," Associated Press, April 10, 1999.
22. Paul Edward and Elisa Crouch, "A missed turn led to tragedy in Fla.," *Providence Journal-Bulletin*, June 23, 1999.
23. Benjamin Radford, "Art Bell's show broadcasts Sylvia Browne failure about mine tragedy," SKEPTICAL INQUIRER, March/April 2006.
24. "TV psychic misses mark on miners," Fox News, January 5, 2006.
25. Chase Squires, "Psychic predicts leads in murder; victim's spouse seeks help on TV talk show," *Herald-Journal*, February 15, 1997.
26. Rachael Leonard, "Vick gets life in prison," *Herald-Journal*, December 1, 2006.
27. "Jefferson County pawnbroker gets life plus 20 years in murder of jeweler John Slayton," *St. Louis Post-Dispatch*, April 25, 2006.
28. Monica Haynes, "Psychic, local women appear on 'Montel,'" *Pittsburgh Post-Gazette*, October 20, 1997.
29. "Schofield soldier charged in murder," *Star Bulletin*, April 29, 2004.
30. "Former soldier gets three years for '91 NC killing," *WIS News*, April 25, 2006.
31. Steve Hensley, "Mountain cold case—Jackie Blair—2000," WKYT-TV, June 15, 2008.
32. "News at Five 5:00 PM NBC," Global Broadcast Database, June 7, 2006.
33. "Still missing, 4 years later," *Valley Independent*, October 15, 2005.
34. Eric Louie, "Police seek new leads in 2002 killing of Livermore woman," *Contra Costa Times*, January 8, 2005. The paper reported: "family members are still hoping for some type of closure. They continue to pass out fliers. They had also . . . paid psychic Sylvia Browne $700 for help."
35. John McMillan, "Psychic gives police clues into priest's 1992 slaying," *The Advocate*, September 14, 1997.
36. "You'll find Girly's body in mineshaft, psychic says," *Albuquerque Tribune*, December 19, 2002.
37. Erik Ingram, "Psychic helps Marin cops in assault case," *San Francisco Chronicle*, December 20, 1986.
38. Stacey Wiebe, "Killer still at large," *Merced Sun-Star*, December 21, 2002. According to the article, the daughter paid for "expensive phone call" with Browne and later appeared on *Crossing Over with John Edward*.
39. "Psychic asked to help solve woman's murder," *The Daily Oklahoman*, February 27, 1998.
40. John Hubbell, "Families offer $15,000 reward in double slaying," *The News Tribune*, July 14, 1994.
41. "Mom asks sheriff to listen to psychic," *Star-News*, January 28, 1998.
42. "Family of missing woman turns to psychic for help," *Star Tribune*, July 18, 2000.

Encounters with Aliens (the Local Kind)

A strange army of paranormalists has infested the Internet. We need an understanding of the ethics and practicalities of dealing with people whose thinking seems to come from another planet.

MARTIN BRIDGSTOCK

Hundreds of science-fiction stories have dealt with the moment at which humanity encounters aliens. It's a fascinating concept. What, we wonder, will the aliens look like? How will they communicate? Will we grasp their thought processes, or will they be incomprehensible?

As any active skeptic knows, however, aliens have already been encountered. They look human, but their thought processes are from beyond Alpha Centauri. They are the endless army of people with oddball ideas who seem to zero in on anyone supporting skepticism. Their missives are often strangely phrased, sprinkled with capitals and multiple exclamation marks. And, usually, they strongly disagree with your viewpoint. Skeptics have many names for these people,[1] but I will simply term them "dissenters."

Let's take a few examples from my own experience. As we shall see, although dissenters are quite varied, there are a few clear identifying signals. Once we've established what characterizes dissenters, we can work out what ethical obligations you have toward them and what practical methods exist for dealing with them. Here are my examples, culled from a longer list.

1) An Australian man noticed that I had written a paper on what scientists think is misconduct and what isn't (Bridgstock 1993). So he sent me a bale of material arguing that he had been denied proper recognition on some research into frogs. He wanted me to obtain for him the recognition that, in his view, he deserved.
2) An American noticed in a recent article of mine that I'd said that science wasn't always right (Bridgstock 2008, 38). He wanted to divert this into a discussion of the origins of life. When I wouldn't cooperate, he erupted into abuse.
3) After I'd appeared on television arguing against creationism, a woman phoned me. She'd done a tealeaf reading, which showed an ape changing into a man, and thought I should rush round and see it—er, I did know about psychic vibrations, didn't I?
4) A man was angered by my recent statement that Phil Plait "resoundingly refuted" claims that the Apollo missions were hoaxes (Bridgstock 2008, 37). Apparently the only thing I could do now was to produce proof that the Apollo astronauts went to the moon or else apologize. And proof, he said, was impossible.
5) A fundamentalist who wrote to some prominent Australian skeptics began his missive with "What fools you are!" and went on to produce some fairly standard creationist arguments. The skeptics replied to his tirade, whereupon the fundamentalist consulted prominent creationists, regurgitated their arguments, and fiercely denounced the skeptics for their alleged ignorance.

This is a pretty varied bunch of people. Do they have anything in common? I think they do. The first task is to point out some danger signs that can help us to recognize the dissenter. Then I want to address how we should respond to dissenters' messages—what our ethical obligations are—and what the best practical ways of doing so are.

The Three H's of Dissent: Howlers, Hijacking, and Hurtfulness

All of these dissenters show at least one of three danger signs, all beginning with the letter H: howlers, hijacking, and hurtfulness.

It is amazing how many dissenters commit the most elementary errors of reasoning and understanding, known as howlers. My tealeaf reader is a good example. She probably meant well, but she couldn't see that evolution is an accepted scientific theory because of a vast mass of evidence. Science seeks to explain the natural world in natural terms. To adduce paranormal "evidence" for a scientific theory is to undermine the basic nature of science.

The Apollo hoax theorist produced a whole complex of howlers. For example, he claimed that the only justification I could possibly produce for my statement was to prove that the Apollo astronauts had been to the Moon. Nonsense. My statement was simply that Plait had "resoundingly refuted" the Apollo hoaxers' claims. And he did. I heard him.[2]

Now, skepticism often involves tough, clear thinking. If dissenters show that they cannot handle elementary logic or if they display profound ignorance of evidence, it would seem clear that they cannot handle skepticism. Therefore, the existence of howlers in your dissenter's messages is a clear sign that dialogue is likely to be fruitless (see Harriet Hall, "Playing by the Rules," SI, May/June 2009). How can you use reason or evidence with someone who has no grasp of either?

Second, there is hijacking. This has nothing to do with aircraft or terrorism. A hijacker in this sense is a person who takes any topic under discussion and whisks it away to talk about what interests them. Normal conversation, in the sense of talking and listening, does not occur. It's unpleasant, and I usually find I want to terminate the non-conversation as soon as possible.

Many dissenters practice hijacking. They do not take any notice of your thinking but use your words as a "hook" upon which to hang their own ideas. Your contribution is simply a means to their end. Indeed, they often seem to be unaware of what you are actually saying.

Dissenter 2 is a good example. In a recent article in SI (Bridgstock 2008, 38), I made a passing remark about science not always being correct. Dissenter 2 seized on this and wanted me to discuss the origins of life on earth.[3] The obvious point is that my paper had nothing to do with the origins of life, and I was under no obligation to be dragged into a dialogue on that topic. The hijacker failed, and he didn't like it.

The frog gentleman in example 1 is similar. My article reported on some research I'd done in which I found that scientists disagree—sometimes strongly—about what constitutes misconduct. This man, it turned out, *hadn't read the article* but decided from the title that I might serve his purpose.

Finally, there is hurtfulness, by which I mean readiness to abuse or denigrate. Many dissenters do not hesitate to insult. Indeed, my suspicion is that many of them gain some kind of pleasure from it. After all, if their ideas have been so completely rejected that nobody takes them seriously, why not strike at those who are so stupid as not to accept their wisdom?

I've already described how dissenter 2 lashed out at me when I wouldn't discuss his topic of choice. Number 4 also became angry when I would not produce the apology he wanted. His line of abuse was to describe me as one of the "DELUSIONAL robotic acquiescent Toadies."[4]

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Number 5 combined two of these signals together. He actually began his first letter with an insult, then hijacked the discussion to make it a debate between professional creationists and skeptics *with himself as referee and scorekeeper*. Needless to say, the skeptics lost—at least in the estimation of dissident 5!

Other Skeptics' Views

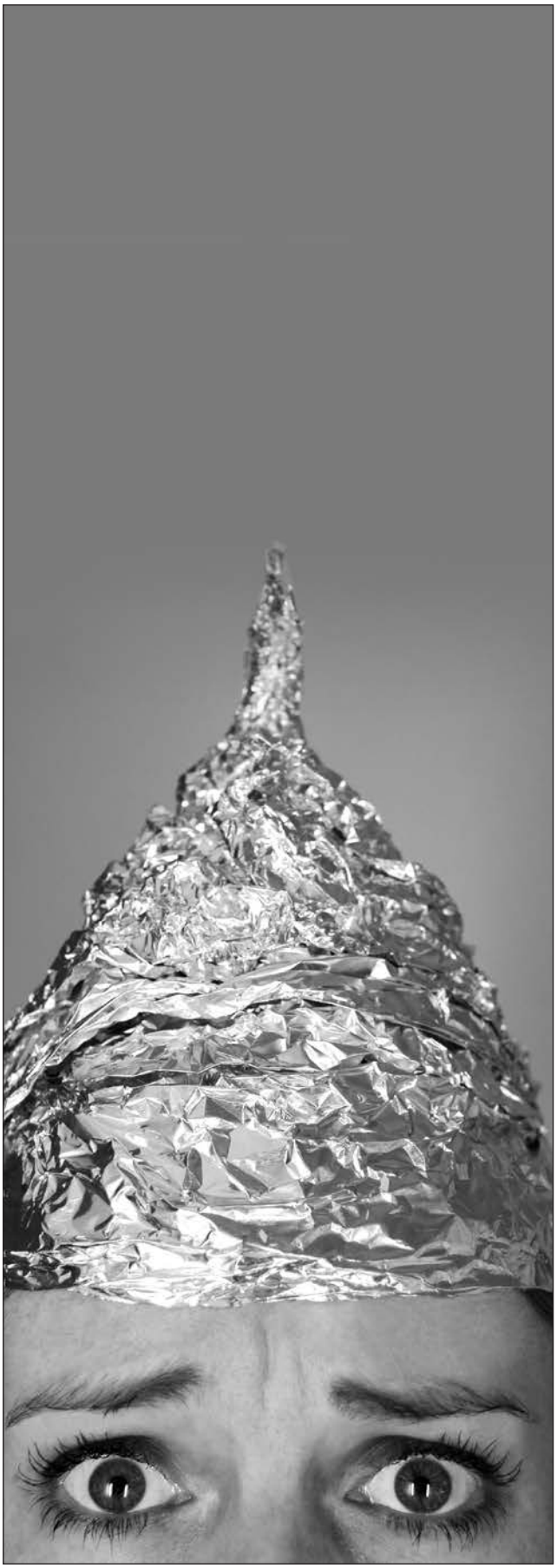
Skeptics have been aware of these danger signals for a long time. James Randi's description of claimants for his million-dollar prize, for instance, is essentially a catalog of howlers (Randi 2005). One of the rules for Randi's prize is that the claimant must state, in two paragraphs, what paranormal activity they can perform. Randi has found that ". . . a good 80 percent of the people who apply can't make that statement" (Randi 2005, 46). Clearly, there is a deep-seated logical incapacity in people who believe they have an important psychic talent but cannot explain what it is.

She'd done a tealeaf reading, which showed an ape changing into a man, and thought I should rush round and see it—er, I did know about psychic vibrations, didn't I?

Veteran skeptic Ralph Estling described the oddball National Philosophical Association in terms that clearly show the mindset that leads to hijacking: ". . . all their energy is engrossed in preaching their various notions, declaiming their *idees fixes* to each other and to any other listeners, willing or otherwise. This is the mark of the obsessive, the dead giveaway of the crank and the crackpot. . . . They have too many points that need too much scoring, too many axes that require too much grinding. They have no sense of humor and therefore no sense of perspective" (Estling 2000, 57).

Finally Martin Gardner, a half-century ago, described the dissenter's willingness to hurt: "Frequently he insults his opponents by accusing them of stupidity, dishonesty, or other base motives. If they ignore him, he takes this to mean his arguments are unanswerable. If they retaliate in kind, this strengthens his delusion that he is battling scoundrels" (Gardner 1957, 12).

These three characteristics—or any one of them—should set danger signals flashing in our minds. After all, is there



much point in entering into a dialogue on logical or evidential matters with someone who has no grasp of basic principles, who disregards your side of the issue, or who esteems you so little that they will hurl abuse at you? Clearly, the chances are not good. But what *should* you do? Is there an ethical dimension to the issue?

What *Should* You Do?

Ethically, what are your obligations when approached by dissenters? You might have published an article in a skeptical journal or appeared on television or radio defending the skeptical viewpoint. Your reward is an approach from a dissenter or even several. He or she plainly wants a reply. What should you do?

It is tempting to regard dialogue with the dissenter as an extension of your skeptical work. After all, if a lost traveller asked you for directions, you'd be polite and helpful, right? Doesn't this poor confused dissenter need your help more than most people?

It is normal and natural to reply to anyone who approaches us—especially when we have something of value to say—but where skepticism is concerned, our priority should be to propagate the message as widely as we can.

Let's begin with a key point. Remember that there are literally hundreds or thousands of paranormal believers for every skeptic. As Paul Kurtz put it, "There are literally thousands of [paranormal] claims pouring forth each year. One cannot possibly deal with them all. We receive a goodly number of calls and letters every week at the offices of CSICOP from people who claim that they have prophetic powers, are reincarnated, or have been abducted aboard UFOs" (Kurtz 1984, 242).

Presumably you believe—as I do—that the world would be a better place if more people thought skeptically, that is, if the general response to strange and outlandish claims were to ask for evidence and to see if the evidence was sufficient to justify the claim. From a consequentialist viewpoint,[5] you owe it to the world to use your time in the most beneficial way possible.

It follows that if we are believers in skepticism, we should accept an ethical imperative to focus our efforts as effectively as possible to develop and extend skeptical thought. We know that we are a tiny minority and we need our message to reach as many people as possible. So if we want to make the most of our limited time, probably the worst thing we could do is engage in lengthy one-on-one dialogues with dissenters. As we have already seen, the chances of success are pretty minimal.

What could you do instead, with the time saved from arguing with a dissenter? Any item from the list compiled by Andrew Mayne (2004) would suffice. Far better to write an article for a college or high school magazine. Give a talk somewhere. Develop a piece of research on some new piece of nuttiness. Write a skeptical blog. Anything that enables you to improve the position of skepticism in the world.

But, you may argue, don't I owe the dissenter a reply? Didn't I publicly state my position and wouldn't it be rude not to offer counterarguments to criticism? It is normal and natural to reply to anyone who approaches us—especially when we have something of value to say—but where skepticism is concerned, our priority should be to propagate the message as widely as we can.

I hope two points are clear now. First, the presence of any of the three H's—howlers, hijacking or hurtfulness—in a dissenter's message should alert skeptics to the likelihood that engagement in discussion will be a waste of time. If more than one appears, my strong advice is not to engage; you have better things to do. Second, there is no ethical obligation upon a skeptic to engage in debate with a dissenter. From a consequentialist viewpoint, it is likely that far more can be accomplished by concentrating on other skeptical activities.

There are some obvious limitations to this argument. Some skeptics pursue dialogue with dissenters simply because they enjoy it. They do not expect to win the argument but gain amusement from the logical contortions into which they can force their opponent. This is a perfectly legitimate approach, though personally I find much of the dissenters' behavior distressing. They seem to be prisoners locked in their own irrational little worlds.

What *Can* You Do?

Now let us move to practicalities. You have received a message from a dissenter. It contains one or more of the H's, and you do not wish to become involved. What should you do? I know of several stratagems and invite other skeptics to contribute their ideas.

First, you can simply decline to reply. It doesn't matter how much the dissenter abuses you or peppers you with aggravating messages. If you don't reply, you have declined to waste your time, and you are ahead. As you work on skeptical research or prepare a magazine article, you can think, "This is time that could have been wasted!"

Still, silence is not a very satisfying tactic. It is not pleasant to sit quietly while someone heaps abuse and denigration upon you. As Gardner pointed out, it leaves the dissenter free to conclude that you cannot address the arguments. What alternatives are there?

Physicist and science-fiction writer Gregory Benford described a useful method of choking off dissidents in his award-winning 1982 novel *Timescape*. Benford's protagonist, Gordon Bernstein, has made a sensational discovery and is plagued with assorted cranks and oddballs. Finally, he hits upon a solution for the strange letters he is receiving: "He wrote a note saying that while the person's ideas were 'interesting' (a suitably non-judgmental term) they were beyond his competence, so he was unable to comment on them." Benford notes, "This worked; they never replied." Einstein used a similar approach, stating his incompetence in the area of extrasensory perception (Gardner 1978, 83). Why would such a modest tactic be successful? It seems to relate to a characteristic of the dissenter's mind. As Gardner (1957, 13) has pointed out, the dissenter ". . . has strong compulsions to focus his attacks on the greatest scientists and the best-established theories." Therefore, Benford's stratagem provides an excellent escape mechanism. The skeptic disappears from the dissenter's radar and can get back to work.

A veteran teacher I knew had a third method. He would refer the inquirer to a forbidding equation and explain that once this was understood, it would be possible to discuss the matter in appropriate detail. Even more, referring to a fearsome mass of equations in a research paper would deter most dissenters—it is too much like hard work, and they are likely to abandon the effort.

Closely related to this is recommending a couple of textbooks—fat ones are the best—and implying that only if the dissenter can master the works listed, a useful dialogue could take place (don't promise that it will, just imply that it might). Since most dissenters regard themselves already as supreme authorities, this is likely to be too much work. With both these methods, I would add a note of ethical caution. The recommended works must actually be relevant to the dissenter's claims. In my view, it would be wrong to send anyone off on a wild goose chase that has nothing to do with the topic.

A fourth method is most useful in mail correspondence but could probably be adapted to e-mail without too much trouble. At one stage in the 1980s battle against creationists in Australia, I was being inundated with silly mail from fundamentalists. I developed a form letter that listed four or five of the most common fundamentalist howlers—plus abusiveness—and this enabled me to explain with a tick in a box why I was not prepared to reply to them.[6] A form e-mail—using cut and paste—would probably have similar effects. I found that my form letter almost always stopped the attacks dead, and in one case it gained me an apology!

If you cannot resist the temptation to engage with the dissenter, then a few tips may be useful. Resist the temptation to fire off a mass of your best arguments larded with denunciations. Denigration is language that dissenters understand, and they have had much more practice at it than you. As Paul Kurtz (2001, 45) put it, the "unsinkable rubber duck" will not be submerged by your message. Further, why waste good arguments on a single committed opponent? You are simply alerting them to your key points and may send them looking for replies. Why not publish your arguments in a magazine or journal or reserve them for a public event, when you can put them to uncommitted people?

I often find that pointing out elementary errors of fact and logic disconcerts dissenters—they tend not to be much good at that kind of thing—and pointing out errors of grammar and spelling seems to cause considerable distress. It can, of course, be done gently. One can use Benford's stratagem and then list the errors, asking gently whether they expect anyone to take seriously such poorly expressed ideas. I suspect you will hear little more.

I have argued here that merely because you are a skeptic, you are under no obligation to engage with the aggressive army of dissenters who infest the Internet and the mail system. You can identify most of them with the three-H strategy,[7] and your skeptical activity will probably be more effective if you focus on larger-scale activities, especially those that communicate with people who are uncommitted. In this way, you are likely to do far more good than becoming tied down by a few unproductive dialogues. You have limited time; don't waste it. □

Notes

1. Weirdos, nut-cases, cranks, and oddballs are among the milder terms.

2. My own assessment is that the evidence for authenticity is extremely strong and the case for the hoax appallingly weak. However, if there were serious evidence to support the idea of an Apollo Moon hoax I would be bound by my skepticism to consider it and to acknowledge its force. So far I haven't seen such evidence.

3. Presumably he thought that science was wrong on this matter. I didn't let the discussion get that far.

4. Exactly how he can describe someone he has never met, or heard from, in these terms I don't know.

5. Consequentialism is an approach to ethics that assesses actions on the basis of the desirability or otherwise of their consequences. It is not the only approach, but I find it consistently valuable in my thinking.

6. The alternatives were: a false assumption about me or my viewpoint; abuse; a false assumption about facts; an elementary logical error; incomprehensibility; and an unreasonable demand. Of course, the list can be adapted to circumstances.

7. Some dissenters try to be subtle and only reveal their true nature later. One woman wrote a friendly letter to me about creationism. I replied, and it was only on the third exchange that she began ranting about "God's word" and I stopped replying. I am not too concerned about dissenters learning to write consistently rational letters. If they could learn that, they would not be dissenters!

References

Bridgstock, Martin. 1993. What is scientific misconduct? *Search* 24(3): 75–78.

———. 2008. Skeptical ethics—What should we investigate? SKEPTICAL INQUIRER. 32(3): 35–39.

Estling, Ralph. 2000. Knowing the place. SKEPTICAL INQUIRER 24(2): 57.

Gardner, Martin. 1957. *Fads and Fallacies in the Name of Science*. New York: Dover Publications.

———. 1978. A second Einstein ESP letter. SKEPTICAL INQUIRER 2(2): 82–83.

Kurtz, Paul. 1984. Debunking, neutrality and skepticism in science. SKEPTICAL INQUIRER 8(3): 239–246.

———. 2001. A quarter century of skeptical inquiry: My personal involvement. SKEPTICAL INQUIRER 25(4): 42–47.

Mayne, Andrew. 2004. 50 things you can do to encourage critical thinking. *Skeptic* (California) 11(1): 26.

Randi, James. 2005. Fakers and innocents: The one million dollar challenge and those who try for it. SKEPTICAL INQUIRER 29(4):45–50.

Disinformation about Global Warming

Most arguments from global warming disputers don't make scientific sense or are based on distorted or obsolete information. Here are short answers to ten of these 'red-flag' arguments.

DAVID MORRISON

For the past decade I have followed the growing evidence for climate change and global warming, talking to colleagues who are atmospheric scientists and attending presentations by leading scientists at professional meetings such as the American Association for the Advancement of Science (AAAS) and the American Geophysical Union (AGU). Rarely in that time did I meet anyone who seriously disagreed with the growing consensus about global warming and the threats it imposes. This past October, however, I found these ideas disputed by both fellow skeptics and some in the audience we were speaking to. This was a shock, and it made me look again at the claims of the warming dissenters. I would like to share some of what I learned.

There is a lot of misinformation and disinformation about global warming on the Internet, driven in part by political and economic issues. These political and economic aspects are complex, and relatively few scientists understand them in detail. It is important to remember that climate is long term by definition; trends in climate require at least a decade to reveal themselves. Thus we can understand the climate trends in the 1990s pretty well but not yet in the 2000s.

One of the goals of the deniers seems to be to sow confusion and give the impression that the science behind global warming is weak. This disinformation campaign is at least partly successful; polls (for example, the 2009 Pew/AAAS poll, SI, November/December 2009) show that about half the people in the United States think there is substantial disagreement among scientists, when actually there has been a consensus on this topic for about a decade. The scientific case becomes stronger all the time, but public acceptance is lagging. Most of the counterarguments don't make scientific sense, or else they are based on information that is obsolete. It is fine to be skeptical, but we need to be concerned when skepticism drifts into denial.

This is not the place to make the case for global warming; that is done very well in the reports of the Intergovernmental Panel on Climate Change. See especially the IPCC Summary for Policymakers and Frequently Asked Questions posted at www.ipcc.ch/ipccreports/ar4-wg1.htm. Instead, I list below (in bold) some "red-flag" arguments from global warming deniers that can help you spot disinformation.

1) We should not worry about carbon dioxide since the main greenhouse gas is water vapor. This statement misrepresents the heating process. It is the carbon dioxide (and methane) that controls the thermal structure of the atmosphere. Water vapor content is highly variable and essentially follows the carbon dioxide, providing a positive feedback that amplifies the effects of carbon dioxide.

2) What we are seeing are "natural variations" caused primarily by variations in solar output. This is false; we have been monitoring solar energy for a quarter century, and the variations are taken into account in all the climate models. Most of the temperature variations up to the beginning of the twentieth century can be traced to small changes in solar output, plus long-term cyclical changes in Earth's orbit and short-term cooling associated with large volcanic eruptions. There are also heating and cooling events associated with El Nino and other shifts in the circulation of the ocean and atmosphere. Since mid-century, however, the rapid heating from carbon dioxide in the atmosphere is overwhelming these "natural" cycles.

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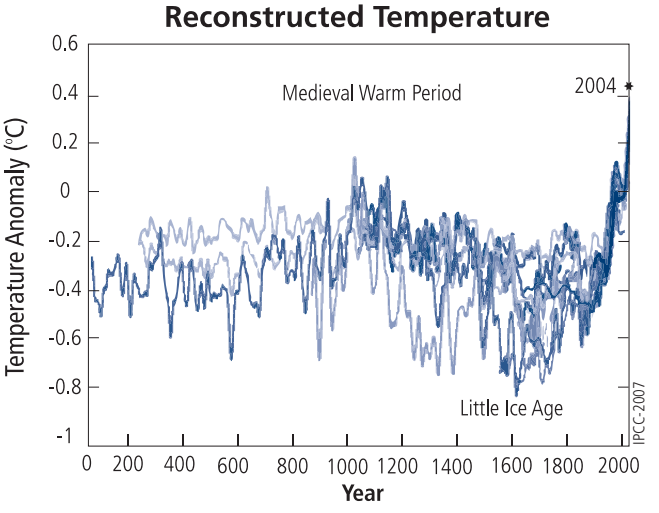
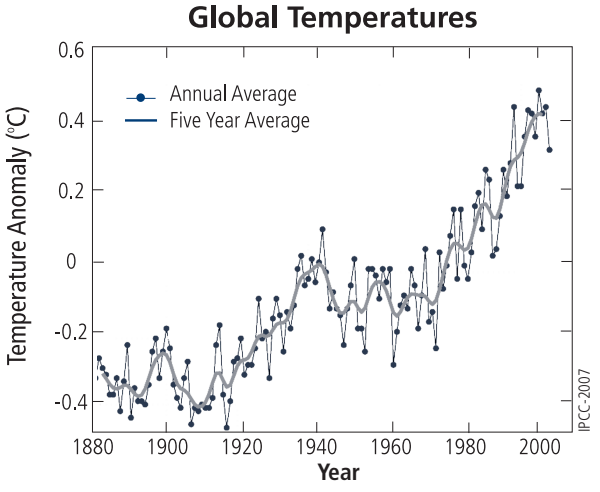
3) The apparent increase in temperature is an artifact caused by the fact that much of the data are from cities, which are warmer than their surroundings. This is also wrong; the "heat island" effect has been corrected in plots of global temperatures. A great deal of scientific effort is going into understanding and combining the various measurements of temperature to produce a consistent data set, combining direct measurements on the ground and from space with indirect "proxy" information, for example from isotopic measurements that track temperature very closely. Also, of course, there are large-scale effects of rising temperature that are easily seen, such as retreat of glaciers, melting on the Greenland and Antarctic icecaps, and loss of sea ice in the Arctic.

4) While temperatures seem to have been rising in the lower atmosphere (the troposphere), they are dropping in the stratosphere. People who say this don't realize that this is the expected signature of greenhouse warming (because greenhouse gases in the troposphere impede the flow of radiant heat from Earth's surface to the stratosphere). If there were an external cause, such as increased energy from the Sun, both troposphere and stratosphere would be heating. Today's computational models allow greenhouse warming to be distinguished from other causes and reveal the primacy of greenhouse warming over the past several decades.

5) Human activity and volcanic eruptions both add to the cloud cover and cause more sunlight to be reflected from the atmosphere. This largely counteracts any heating from the greenhouse effect. Atmospheric pollution, both natural (from volcanoes) and human-caused (from smoke and other aerosols), does influence temperature, reflecting sunlight and reducing the warming we would have from increased greenhouse effect alone. Without these contributions to cooling, the added greenhouse heating would be significantly greater than what we measure. There are also temperature increases caused by darkening of the surface, because more sunlight is absorbed. As the ice melts in the Arctic Ocean, the dark water absorbs a great deal more sunlight, an effect that will accelerate future global warming.



6) The warming trend during the 1990s is no big deal; temperatures are actually lower than they were in the medieval warm period. This is wrong; over at least the past few thousand years, temperatures have never been as high as they are today. By the middle of the twentieth century the temperature passed the record highs from about a thousand years ago, and they have been rising ever since, taking us into unknown climate territory.



7) While there was warming in the 1990s, this has stopped and the world is now beginning what may be a long-term cooling cycle. This is a misinterpretation of the temperature measurements. There are always short-term fluctuations in global temperature superimposed on the the overall warming trend. Those who say the temperature has plateaued or is cooling over the past decade start with the anomalously high temperature in 1998, reflecting a major El Nino event that year. If you adopt such a high temperature excursion as your baseline, of course the values tend to be lower for the next several years (called the regression to the mean). But putting aside the temperature spike in 1998, temperatures during the past decade have continued the warming trend of the 1990s.

8) More carbon dioxide is good, since it makes plants grow better. This might be true if we could increase carbon dioxide without greenhouse heating, but high temperatures are not good for most plants. In addition, the increase in carbon dioxide acidifies the oceans, which can destroy coral reefs or have deleterious effects on zooplankton, on which much ocean life depends. Over much of the Earth, localized long-term droughts caused by global warming will have a major negative effect on plants.

9) There is no consensus; many scientists disagree about global warming. This is not true at all. Dissenters have published hardly any peer-reviewed scientific papers in the past decade. The dissenters are mostly not climate scientists, and they have offered no alternative models to explain the data. The national academies of science in all of the industrialized countries have endorsed the findings of the Intergovernmental Panel on Climate Change (IPCC), which represents a strong scientific agreement on both the reality of global warming and the challenges it implies.

10) How can we trust climate scientists when numerous e-mails from the U.K. climate scientists show that they have distorted their data and actively suppressed dissenting opinions? These stolen e-mails from a British climate center reveal how real scientists work, warts and all. People write things in personal e-mails that they would never want published. There is no evidence, however, of fudging or suppressing the climate data. There appear to have been efforts to influence editors of scientific journals not to publish papers by global-warming deniers. At one level this is exactly what scientists normally do: vet papers through the peer-review process to weed out poor science. If the actions go further and represent impropriety, that will be revealed by the current investigation. But there is nothing in this controversy that undercuts the overwhelming scientific consensus about human-caused global warming.

Finally, let me comment on the role of the skeptic. (See also Stuart Jordan, "The Global Warming Debate: Science and Scientists in a Democracy," SI, November/December 2007, and Jordan's response to several global warming disputers in "Response to 'Assessing the Credibility of CFI's Credibility Project,'" SI, January/February 2010.) Note that I have said nothing about future warming trends, rises in sea level, or warming-induced increases in the severity of storms. As the saying goes, it is difficult to make predictions, especially about the future. It is certain that warming will continue since temperatures are dominated by the increasing carbon dioxide in the atmosphere. In spite of promises, there has been no reduction in the rate of CO_2 production, and even if governments take drastic action we will continue to pump out lots of greenhouse gases at least through the middle of this century. In addition, the climate system itself has inertia, and the warming lags the CO_2 concentration by ten to fifteen years. There are also major uncertainties about feedback effects, especially from warming in the polar regions, which might accelerate melting ice and contribute to release of CO_2 and methane from the tundra. Scientists have tried to model these processes, and their simulations agree for the next ten to twenty years. Beyond that, the models diverge, however, due both to uncertainties in the computations and to differences in the assumptions made. It is reasonable to be skeptical about specific predictions, especially after 2030, but that should not blind us to what is happening to our planet now. □

References

The IPCC reports and the peer-reviewed articles they reference are the basic resources for this article. In addition to the IPCC materials, I recommend two reliable Web sites: RealClimate—Climate Science from Climate Scientists, available at www.realclimate.org, and SkepticalScience—Examining the Science of Global Warming Skepticism, available at www.skepticalscience.com.

Faith in the Power of Witchcraft

Believing that there are witches with malevolent power can have numerous social and psychological benefits for a community. This helps explain why witchcraft traditions are so enduring and widespread.

ANTHONY LAYNG

Belief in traditional witchcraft is highly conservative and moralistic. This became evident to me only after spending a year conducting ethnographic research among the Caribs on the West Indian island of Dominica. This impoverished reservation population of approximately 3,000 survives mainly by growing bananas and subsistence crops. As an anthropologist, I had read about witches in numerous societies but had not previously lived in a community where faith in witchcraft was the norm.

Early on in my fieldwork, I attended a gathering in a home where a young girl had been unable to leave her bed for some time, and there was much speculation about who "the witch" responsible was. It was agreed that magic should

be used to both cure the girl and punish the witch, whoever it might be. To this end, a local healer, an older woman knowledgeable about curative herbs and rituals, was consulted. In spite of this woman's evident expertise and efforts, the girl died a few days later.

When I asked the older woman about this case, she replied, "The witchcraft was too strong." She went on to tell me about a former patient who suffered from a persistent foot infection. Convinced that he was a victim of witchcraft, he came to the woman for help and, as she described it, she used her magic to remove a hairy caterpillar from the infected area and send it back to the unknown witch who put it there. Later, her story goes, a man came to her for treatment and she discovered the very same caterpillar in him, thus confirming to her satisfaction that he was the culpable witch. She went on to tell me that he failed to pay for her services (which seemed to confirm for her that he was truly evil).

Not infrequently, I was warned to avoid certain neighbors who were suspected of having used witchcraft. As an outsider, some presumed that I had some sort of immunity, but others were alarmed to learn that I slept with all my windows open at night, when witches assume the form of fireflies and enter homes to cause mischief. Always the objective social scientist, I found not the slightest evidence that anyone there ever attempted to use witchcraft against me or others. It seems that faith in witchcraft can survive quite well even where there are no witches.

Unlike fairy tale witches and New Agers who identify themselves as such, Carib faith in witchcraft is an ancient tradition that has been maintained in many tribal and peasant communities all over the world. Typically, these witches are believed to be antisocial or in other ways different from "good" people. In communities where witches are presumed to live, there is much talk about how to protect one's self against their evil power and how to identify those who possess such power. Although suspicions and accusations may be numerous and heartfelt, there is often agreement that "you can never be sure who is a witch."

Witches, we are told, possess supernatural ability to harm others, consciously or not. Steps may be taken to ward off witchcraft, and there are always magical remedies to try to counteract the harm caused by a witch. Attempts are made to identify the evil individual responsible for any serious misfortune, and the accused may be shunned, killed outright, or subjected to magical punishment.

One hears less about such witches once a certain level of economic development has been achieved, but when hard times return, accusations of witchcraft may become common again. For example, there has been a resurgence of this belief in sub-Saharan Africa in recent years. (See this issue's News and Comment section for timely examples.)

Believing that there are witches inclined to harm others with their malevolent power can have numerous social and psychological consequences for a community. These come not from witches, of course, but from the belief that witches exist and are a real threat to one's health and wellbeing. Such faith may be unsophisticated but can nevertheless have very practical benefits, including the following.

Maintaining mental health (gaining sympathy and compensation for low status, displacing antagonism and jealousy, achieving a sense of control). Victims of witchcraft, often persons who otherwise attract little attention, receive intense sympathetic concern from their neighbors. Those accused of using witchcraft are frequently very unpopular and, therefore, are ideal scapegoats. Blaming misfortune on gods, demons, or bad luck gives the believer very little sense of control; witches, being here among the living, may be identified and dealt with.

Providing explanations (explaining death, illness, misfortune, and why magical cures sometimes fail). Where witchcraft is presumed, bad luck, accident, or infection are not considered satisfactory explanations. When misfortune is especially persistent, witchcraft is readily assumed to be the cause. When magical cures fail, witchcraft may be blamed for the failure, thus preserving faith in such good magic.

Encouraging proper conduct (reinforcing and clarifying correct behavior and providing negative role models to dis-

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courage bad behavior). Nonconformists are the most likely to be accused of practicing witchcraft; their strange behavior provides "evidence" of their evil nature. Nonconformity is generally offensive to neighbors, one of whom might be a witch. Therefore, it is safest to treat everyone in a normative fashion. That way, you avoid being suspected of being a witch, and you avoid attracting retribution from a witch.

Encouraging generosity and sharing (ensuring an equitable distribution of material resources). In egalitarian societies and communities plagued by persistent poverty, individuals and households adapt by sharing with others. Those who refuse to be generous are highly suspect when misfortune strikes a neighbor. These same individuals run the risk of provoking a witch who can cause them grievous harm. An economic surplus in the form of savings is avoided for fear that it would evoke jealousy and invite the suspicion of being a witch—and possibly offending a witch.

Conserving tradition (defending the social order and community cohesion). Those who openly challenge accepted norms are especially likely to be accused of witchcraft. Where only outsiders are suspected of being witches, the morality of one's own community is viewed as superior. Similarly, directing accusations of witchcraft to nonrelatives can express and reinforce loyalty to one's own lineage.

Providing entertainment (creating drama and stimulating imagination). Dramatic folktales about witches and gossip concerning an unpopular neighbor suspected of inflicting illness or bad luck on a household are listened to with great interest, especially by children. Consequently, lessons to be learned from these accounts fall on fertile ground and help perpetuate the beliefs.

Coping with rapid social change (attempting to reinstate social order). Under conditions of rapid cultural change and prolonged stress, witchcraft accusations may increase dramatically. Tolerance for deviant behavior decreases under these conditions, inviting witch hunts and creating incentive to abide by traditional cultural norms.

These conservative functions of faith in witchcraft help to explain why this tradition has been so enduring and widespread. Fear of witchcraft can have very valuable consequences, and societies are disinclined to abandon customs that are practical. Even where it is common to kill those judged to be witches, the community at large enjoys these advantages that make its culture so well adapted to underdevelopment. The psychological and sociological coping mechanisms, and the positive influence on the sharing of limited material resources, help to ensure the survivability of these populations.

Ironically, American missionaries among the Caribs have tried very hard to undermine their faith in witchcraft. Not surprisingly, given the fact that this belief system so effectively reinforces Carib morality and cleverly encourages them to share their meager resources as an effective way to deal with persistent poverty, it will continue to be an important part of their culture until economic development provides enough material and psychological security to supersede their present faith in witchcraft. □

A Sampling of Traditional Witchcraft Beliefs

Navajo (Southwestern U.S.)
Witches can transform themselves into werewolf-like animals that eat corpses and make poisons from dried and ground human flesh, especially that of children. These lethal poisons are thrown into houses, buried in cornfields, or placed on individuals. Some witches become wealthy by robbing graves.

Apache (Arizona)
Witches have the power to cause illness and death in both people and livestock. They can also induce serious accidents. Amulets containing turquoise beads and corn pollen protect the wearer from witchcraft. Healing rituals conducted by medicine men can cause a witch to sicken and die.

Cherokee (North Carolina)
Witches attack people randomly out of pure malevolence. Anyone, man or woman, can become a witch, but most are twins. They hang around old or ill people to steal their breath to add to their own power. They can also cause a strong person to become ill. Relatives must watch all night long to protect a child from witchcraft.

Azande (Sudan)
Witches possess an inherited substance that gives them their evil power. They hold meetings at night and have sex with demons. They make themselves invisible and send spirits to eat the souls of their victims. Nearly every misfortune (suicide, accident, a wife's frigidity, etc.) is caused by witchcraft.

Ibibio (Nigeria)
Witches are despicable people. To cause illness, a witch will remove an enemy's soul and put it into an animal. Such a victim will die if the witch eats that animal. To torture someone for a long time, the witch will place the victim's soul over a fire or submerge it in water.

Ulithi (Micronesia)
Witches use contagious magic to bury an object associated with the intended victim, over which incantations are uttered, near the house of that individual. A concoction may be placed on a comb to cause ringworm or on clothing to attract sharks. Those who suspect such sorcery must wear protective amulets.

Catholic Priests (15th Century Europe)
Most witches are ambitious women, many of whom are concubines of the Devil. All witchcraft comes from carnal lust. Witches incline the minds of men to inordinate passion, change men into beasts, destroy the generative forces in women by procuring abortions, and offer children to the Devil.

Note

Some might question the use of "faith" in reference to witchcraft. Admittedly, most writers would substitute "belief," since Americans usually prefer "faith" when referring to generally accepted beliefs ("faith in God" and "faith in prayer," for example). For such concepts as magic, ghosts, and demons, the customary term is "belief." Since witches and God are both representations of supernatural power, I have attempted to avoid such ethnocentrism here by selecting "*Faith* in the Power of Witchcraft" as my title.

Oprah Winfrey: Bright (but Gullible) Billionaire

MARTIN GARDNER

There are two Oprah Winfreys. One is the African-American woman who struggled against incredible odds in abject poverty to become the wealthiest, most admired woman in America. No one has summarized this Winfrey better than Ken Frazier in a letter to me that I quote with permission:

> She has done some enormous good, it seems to me. She has, among other things, strongly empowered women, instilled a love of reading books through her book club program, taken on a number of very difficult issues with a seriousness and directness not usually associated with daytime TV, funded and built schools in South Africa, and otherwise served as a successful role model for millions of women worldwide.

The other Oprah Winfrey is an attractive, intelligent woman with a heart of gold, but who has only a pale understanding of modern science. On her daily television show (which, she announced in November to stunned viewers, will end after its twenty-fifth season, 2010–11) she promotes, as frequent guests, men and women who preach views and opinions that are medically worthless and in a few cases can even lead to death. This naïve Winfrey is the topic of this article.

You may have noticed that in every photograph you see of Winfrey, either on the cover of her magazine *O* (and she's on *every* cover) or elsewhere, she looks young and gorgeous. Not so on the cover of the June 8, 2009, issue of *Newsweek*. In large white letters across her hair are the words "Crazy Talk. Oprah, Wacky Cures & You."

The cover story by Weston Kosova and Pat Wingert is a bombshell. For the first time in a mass-circulation magazine, the Queen of Television is pummeled for her constant praise of dubious medical opinions and other forms of bogus science. But before covering *Newsweek*'s hatchet job, let's take a quick look at Winfrey's amazing life.

Oprah Gail Winfrey was born in Kosciusko, Mississippi, in 1954 to two unmarried teenagers who separated soon after. Winfrey was raised by a grandmother in such poverty that her dresses were literally made of potato sacks. She was raped at age nine and molested by an uncle, a cousin, and a family friend. She became pregnant at fourteen and gave birth to a son, her only child, who died in infancy.

Winfrey was an honor student at a Nashville high school, obtaining a scholarship to Tennessee State University. After two years of college, she began working in radio and television, which eventually led to a career on the highest rated daytime TV show in the world.

Today Winfrey is said to be the most powerful woman in America. She is a billionaire two times over. Although her show is based in Chicago, her main home (she owns several here and there) is on a huge estate in Montecito, California.

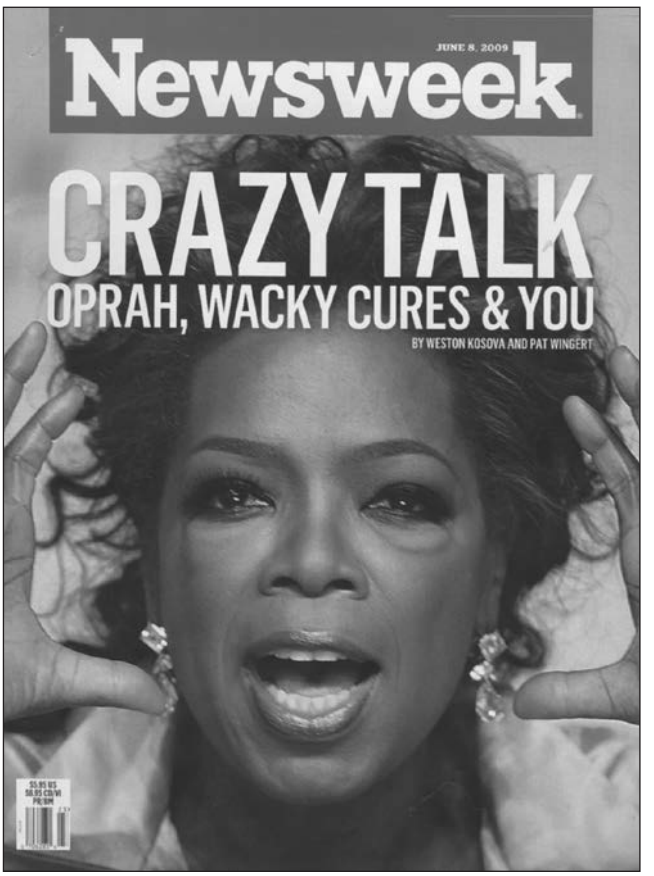
In addition to *O* (circulation two million), she publishes a magazine called *O at Home*. Winfrey also owns a corporation called Harpo (Oprah backwards), which handles a variety of products, and created Oprah's Book Club, which can propel a book into an instant best seller. Her power even stretches to the political realm: her support of Barack Obama is said to have won him a million votes.

Now for a look at the explosive *Newsweek* article.

The piece opens with lurid accounts of actress Suzanne Sommers's many appearances on Winfrey's show. Every morning, Sommers rubs estrogen cream on one arm and injects estrogen into her vagina; two weeks a month, she smears progesterone on her other arm. She also swallows a bewildering variety of vitamin supplements, gives herself injections of growth hormones, and wears a nanotechnology patch to lose weight and promote sleep. Sommers claims to use only "natural products" and criticizes all the big drug companies that make billions, she is convinced, by hawking dangerous products.

Winfrey's enthusiasm for Sommers's wild medical opinions is boundless. She urges her viewers to buy the actress's treat-yourself books. After following Sommers's advice about taking estrogen, Winfrey wrote in *O*, "I felt the veil lift. After three days the skies were bluer, my brain no longer fuzzy, my memory was sharper. I was literally singing and had a skip in my step."

Mainstream doctors hold contrary views. They scoff at the notion that Sommers needs all this medication. Excessive use of



hormones, they say, can increase the risk of heart attacks and strokes and even cause cancer.

"It completely blew me away," said Cynthia Parsons, executive director of the nonprofit National Women's Health Network, "that Oprah would go to [Sommers] for advice. I have to say it diminishes my respect [for her]."

Another frequent guest on Winfrey's show is Jenny McCarthy, actress and star of numerous films and TV shows. She first became famous for modeling in *Playboy* and later became better known for her outrageous humor.

McCarthy is in the *Newsweek* article because of her vigorous efforts to convince the world that autism is caused by vaccinations. She has an autistic son, Evan, who she insists became autistic after he was vaccinated for measles and other diseases. In her book *Louder Than Words: A Mother's Journey in Healing*, she

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Martin Gardner is author of more than seventy books, most recently When You Were a Tadpole and I was a Fish, and Other Speculations About This and That, *published by Hill and Wang in October 2009.*

claims that chelation therapy has helped her son. This therapy, considered quackery by almost all doctors, blames autism on mercury that was once used in vaccines.

The notion that vaccinations cause autism has been thoroughly discredited by dozens of studies, yet it continues to flourish among ignorant parents. Winfrey buys the myth hook, line, and sinker. She has promoted McCarthy's absurd views on numerous shows. In May 2009, Winfrey announced that her production company had signed McCarthy for her own talk show. Like the healing myths of Christian Science, McCarthy's crusade is likely to result in needless deaths of children who succumb to diseases that could have been prevented by vaccinations.

Dr. Christine Northrop, a physician who opposes vaccinations, is also a frequent guest on Winfrey's show. Her medical views are closely linked to New Age mysticism that treats the soul as well as the body. Northrop uses tarot cards to help diagnose illnesses and even sells a set of her own called Women's Wisdom Health Cards.

"It completely blew me away," said Cynthia Parsons, executive director of the nonprofit National Women's Health Network, "that Oprah would go to [Sommers] for advice. I have to say it diminishes my respect [for her]."

Northrop's advice to women with thyroid problems is to take iodine supplements. According to David Cooper, professor of endocrinology at Johns Hopkins, taking iodine will make the thyroid condition worse. Cooper calls the notion that iodine will help "utter hogwash."

In 2004, Winfrey praised a new type of plastic surgery called thread lift. In the procedure, a threaded needle is punched through the skin and used to tighten it. Winfrey played a video showing the procedure, followed by before-and-after photographs. According to *Newsweek*, the before picture showed the woman without makeup and in an unflattering light. The after photo showed her face covered with pancake makeup. Winfrey then called the woman to come up from the audience, her face plastered with makeup. The audience burst into applause. The thread-lift fad has since waned, mainly because it has no lasting effect and can even cause scarring.

Winfrey is still touting alternatives to plastic surgery. The latest craze, called thermage, uses radio waves to tighten the skin. The machine that produces the waves sells for $30,000. Sales soared after Winfrey's endorsement, but she had little to say about the therapy's dangers and its risks of scarring, which angered even the firms selling the machines.

One frequent guest who offers good advice on how to lose weight and stay healthy is Dr. Mehmet Oz, a Turkish-American surgeon at Columbia University. However, Oz, who now has his own spin-off show, promotes a variety of high-priced food supplements, such as acai berry, MonaVie, and Roservatol, which have no more benefit than a well-balanced diet. He also promotes alternative medicines, notably acupuncture, which he has praised on Winfrey's show, ignoring the fact that the vast majority of doctors consider it worthless beyond its placebo effect. He can be faulted further for sitting silently while Winfrey spouts what he must know is balderdash.

Oz is said to be a disciple of the Swedish mystic Emanuel Swedenborg. Swedenborg wrote at length about his out-of-body visits to other planets whose inhabitants and cultures he describes in his writing.

Oz's best-known book is *Healing From the Heart*. He is the coauthor of *YOU: Being Beautiful*, which is the last of five *YOU* volumes.

Winfrey's enthusiasm for New Age books reached its apex when she promoted the monumental idiocy of *The Secret*. It can be described as a hilarious parody of books by Norman Vincent Peale. Instead of God working miracles, the universe itself does it. *The Secret* teaches that the universe consists of a vibrating energy that can be tapped into with positive thoughts, allowing you to obtain *anything* you desire—happiness, love, and of course fabulous wealth. Want to lose weight? Then stop having fat thoughts and think thin! Want to become wealthy? Stop thinking poor thoughts. Think rich!

"I've been talking about this for years," Winfrey said. "I just never called it the secret."

The Secret was first a film produced in Australia in 2006 by New Age author Rhonda Byrne. Two years later, the book version was issued in the U.S. by Astria, an imprint of Simon and Schuster. The editors at Simon and Schuster can smell a best seller as soon as they read a manuscript's first page. Move over Mary Baker Eddy! Thanks to Winfrey, *The Secret* has sold over seven million copies in the U.S. alone. *Time* published a recent issue featuring one hundred of the world's most influential people. In a fit of poor judgment, they included Byrne on the list. She now lives in California not far from Winfrey's estate. Her newfound wealth, of course, is proof the secret works (for more, see "Secrets and Lies," SI, May/June 2007).

Let Dr. David Gorski, a surgeon at Wayne State University School of Medicine, have the last word: "The bottom line is that, when it comes to medicine and science, [Winfrey] is a force for ill." □

Our Deliberate Slide into Ignorance

KEITH TAYLOR

Idiot America: How Stupidity Became a Virtue in the Land of the Free. By Charles Pierce, Doubleday, New York, 2009. ISBN: 987-0-7679-2614-0. 293 pp. Hardcover, $26.

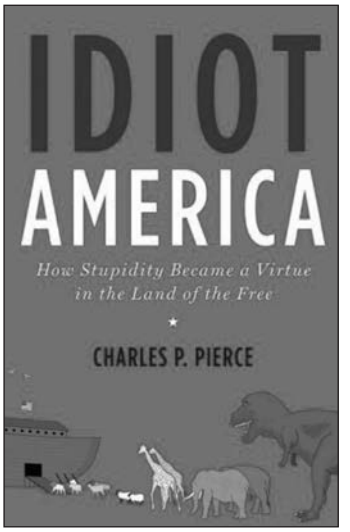
"We are the greatest country on the face of the earth!"

That phrase has been shouted so often and so loudly that we rise and cheer en masse every time a politician makes the jingoistic proclamation. God, how we love to lie to ourselves! At least most of us do, but not Charles Pierce. He tells us we are deliberately ignorant, and he makes me wonder if other countries might not have the edge on us sometimes.

Pierce's *Idiot America: How Stupidity Became a Virtue in the Land of the Free* is a polemic that won't let go. It reminds us of the deliberate ignorance foisted on us every time we watch the news, read a paper, or open yet another e-mail telling us how we must put God back in our schools. Pierce is a regular on National Public Radio's *Wait, Wait, Don't Tell Me* and a writer who has been published in *Esquire*, *The New York Times Magazine*, *The Nation*, and many others.

Pierce takes on his bugaboo, stupidity, *mano a mano* and kicks the hell out of it. What's more, he does it with a devastating sense of humor. To those of us who are shunted aside in our own country because we will not subscribe to myths and superstitions, there is just something delicious in watching those myths and superstitions stripped as naked as Adam in Eden.

Keith Taylor is a retired Navy officer. He frequently writes for Military Times*, a Gannett weekly. He is also former president and current program chair for the San Diego Association for Rational Inquiry. You can reach him by e-mail at KRTaylor-xyz@aol.com.*



Watching our homeland excoriated isn't pretty, but neither is a deliberate slide into ignorance. Sadly, we are doing it to ourselves, and too many of us are cheering as it happens. The media help gullibility along by adhering to what Pierce calls the three great premises of idiot America.

- First premise: "Any theory is valid if it sells books, soaks up ratings, or otherwise moves units."
- Second premise: "Anything can be true if somebody says it loudly enough."
- Third premise: "Fact is that which enough people believe."

The first example he gives of idiocy being taken for fact is the Creation Science Museum in Hebron, Kentucky. It certainly is a sad commentary on our gullibility that folks *choose* a myth over science, but it would take a determined pessimist not to laugh with Pierce as he describes how folks justify idiotic actions. He describes a naked Adam whose nakedness doesn't include a penis. A flesh-colored (Caucasian of course) body stocking discreetly covers the offensive part. Eve appears a bit more daring with her perkies discreetly covered by her long hair.

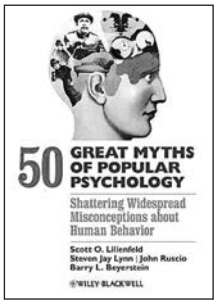
Folks pay a ton to be completely sheltered from scientific theories, and the Creation Science Museum does a wonderful job of denying things even when they are accompanied by an abundance of proof. You won't see any pictures of light that has been traveling 13 billion years to get here.

Elsewhere Pierce lists loony ideas that have come about as Athena did from the head of Zeus. Six years ago the country was sent into a tizzy when Texas was said to be planning a $200 billion highway that would stretch clean across the country, all the way from the Mexican border to Canada. And that wasn't all. The Mexican government would have a checkpoint in Kansas City and would be able to control traffic right here in the good old U.S. of A! Our sovereignty would be supplanted by something that might be called Mexicania. As a rationalist might guess, the road existed only because lots of people said it did, Pierce's third premise.

He gives example after example. He is also gracious in giving credit to the many skeptics who provided him with tales and verification.

In the end we may blame preachers and charlatans, but it is the media that carry the message. Pierce doesn't simply blame the media, however. He tells us that the media "acted with the tacit approval of its audience. We leave ourselves on automatic pilot and realize, too late, what happens when we do."

That is worth remembering. I belong to a group with the slogan "Dare to Think." We ought to do that more often. □


50 GREAT MYTHS OF POPULAR PSYCHOLOGY
Shattering Widespread Misconceptions about Human Behavior
Scott O. Lilienfeld
Steven Jay Lynn | John Ruscio
Barry L. Beyerstein
WILEY-BLACKWELL

Things We Know That Are Not So

PETER LAMAL

50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behavior. By Scott O. Lilienfeld, Steven Jay Lynn, John Ruscio, and Barry L. Beyerstein. Wiley-Blackwell: Malden, Massachusetts, 2010. ISBN: 978-1-4051-3112-4. 332 pp. Paperback, $22.45.

Conversations with people of varying backgrounds often provide many examples of the widespread and strongly held misunderstandings regarding psychology. For example, most people know that:

1. Students learn best when teaching methods are matched to their learning styles.
2. Persons diagnosed as schizophrenic have multiple personalities.
3. Clinicians' expert judgment and intuition constitute the best method for making clinical psychology decisions.

But what "most people know" is false, as Lilienfeld and colleagues demonstrate for these three myths and the forty-seven others they address in *50 Great Myths of Popular Psychology*.

Why should we care, however, if there is widespread belief in myths about our behavior? The authors provide three reasons why we should care: Psychological myths can be harmful. For example, jurors may erroneously convict a defendant on the basis of confidently presented (but inaccurate) eyewitness testimony because the jurors believe mistakenly that memory operates like a videotape. Psychological myths can also cause indirect damage due to opportunity cost, for example by ignoring effective treatments in favor of ineffective ones. Lastly, acceptance of psychological myths can seriously hinder our critical thinking in other areas, such as genetic engineering, global warming, and crime prevention due to a "spill over" effect.

The authors describe ten causes of psychological myths after noting that all of us, including scientists, are prone to these sources of error. But scientists have also adopted a set of rules and procedures—the scientific method—designed to minimize their likelihood of committing conceptual errors that cause belief in myths. The ten causes of myths, awareness of which constitutes a "mythbusting kit," are:

1. Word-of-mouth
2. Desire for easy answers and quick fixes
3. Selective perception and memory
4. Inferring causation from correlation
5. *Post hoc, ergo propter hoc* reasoning
6. Exposure to a biased sample
7. Reasoning by representativeness
8. Misleading film and media portrayals
9. Exaggeration of a kernel of truth
10. Terminological confusion

These causes are not listed in order of importance. They are all brought to life in the following eleven chapters that illustrate and discuss the various topics (e.g., consciousness, personality, emotion, and motivation) about which there are myriad myths. At the end of each chapter many more myths contrasted with the truth are listed. For example, the myth is that "most psychotherapists use empirically supported theories," but the fact is that "surveys suggest that only a marked minority of therapists use empirically supported therapies for anxiety disorders, mood disorders, eating disorders, and other conditions."

A postscript describes "Ten Psychological Findings that Are Difficult to Believe, but True." One example: "Patients who've experienced strokes in their brain's left frontal lobes, which result in severe language loss, are better at detecting lies than are people without brain damage." An appendix lists two pages of Web sites dealing with psychomythology, followed by sixty-three pages listing the articles and books the authors have cited.

50 Great Myths of Popular Psychology is written in an engaging style and is valuable for both professionals and the general public. I highly recommend it. Readers may also be interested in what might be considered a companion volume, Lilienfeld, Lynn, and Lohr's *Science and Pseudoscience in Clinical Psychology*. □

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Peter Lamal is an emeritus professor of psychology at the University of North Carolina–Charlotte and a fellow of the Division of Behavior Analysis of the American Psychological Association.

Bigfoot Beliefs in Cultural Context

BENJAMIN RADFORD

Bigfoot: The Life and Times of a Legend. By Joshua Blu Buhs, University of Chicago Press, 2009. ISBN: 978-0-226-07979-0. 304 pp. Hardcover, $29.

Those who research things never proven to exist—such as Bigfoot—sooner or later find themselves experts not on the subject itself (lacking a physical corpus to examine) but instead on the *phenomena* surrounding the subject: the evidence, claims, counterclaims, folklore, and so on. Often the cultural context of a monster is critical in understanding why it exists in the form it does and what role it plays in the society that accepts or doubts it.

Therein lies the value in Joshua Blu Buhs's new book, *Bigfoot: The Life and Times of a Legend*. Buhs examines the topic as an anthropologist and cultural historian, providing insight into how the world came to know Bigfoot. This approach, however, occasionally veers into slightly dubious analysis. (Was the Yeti really seen as a symbol of post-colonial British character? Is Bigfoot really a metaphor of "simultaneously other and self, black and white, woman and man"?) Sometimes a cigar is just a cigar, and a guy in an ape costume is just a guy in an ape costume.

As *Bigfoot* makes clear, the history of Bigfoot is a history of almost-hads and near-misses, tall stories, hoaxes, and more than a few fervent and sincere true believers. Buhs is at his best when providing a context with the various colorful characters and events dotting the storied history of the Yeti and Bigfoot. He also gives lie to a claim often heard from Bigfoot proponents about why the creatures remain elusive: that no serious effort has been made to find them. In fact, Buhs catalogs many searches (of varying quality and scientific integrity, some of them funded by Texas millionaire Tom Slick) for these cryptozoological mysteries.

Several years ago, a book by Greg Long titled *The Making of Bigfoot* drew a very unsavory (and by all accounts quite accurate) portrait of Roger Patterson, who supposedly filmed the famous 1967 Bigfoot. Buhs reinforces Patterson's reputation as an untrustworthy character.

The picture Buhs paints of cryptozoology's founding fathers is only slightly more flattering. Ivan Sanderson, for example, who is often touted as a model of pioneering investigation into unknown animals, was perfectly willing to sensationalize and exaggerate stories to help sell his articles and books. Indeed, Buhs mentions Sanderson's "low standards of truth and consistency" and quotes a review in the *San Francisco Chronicle*: "No story seems too wild or improbable for Mr. Sanderson" (Sanderson was once fooled by a crude hoax and came to believe that fifteen-foot-tall penguins existed in Florida). He also (like Charles Fort) had a deep-rooted antipathy for science, an influence sadly evident in modern cryptozoology. Says longtime Bigfoot researcher Rene Dahinden, "I don't give a damn about science. I could care less about science."

Oddly, despite being offered as the gold standard for Bigfoot evidence for over forty years, Buhs does not discuss the Patterson/Gimlim film until page 133, and even then he makes only passing mention of the many unexplained problems, logical flaws, and factual errors in the myriad stories told about the film's creation. Perhaps Buhs did not want to get bogged down in what he felt was insider minutiae or wade into the morass of conflicting arguments. Whatever the reason, the Bigfoot film had a far greater effect on Bigfoot research—and the public's image of the beast—than Buhs recognizes.

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Buhs stumbles in a few places, especially when discussing skeptics. For example, on page 63 he repeats a basic and common error by suggesting that skeptics dismiss all Bigfoot evidence as the result of lies, pranks, or hallucinations. In fact, there is a fourth option (accounting for the majority of Bigfoot evidence) of which Buhs seems unaware: common perceptual and cognitive errors. The bulk of Bigfoot "evidence" comes in the form of eyewitness accounts, and most of those

Benjamin Radford wrote "Bigfoot at 50: Evaluating a Half-Century of Bigfoot Evidence" in the March/April 2002 SKEPTICAL INQUIRER *and is coauthor of* Lake Monster Mysteries: Investigating the World's Most Elusive Creatures *with Joe Nickell. His book on the Hispanic vampire chupacabra will be published later this year.*

are misunderstandings and mistakes, not prevarications or hallucinations.

Buhs also falters when he describes the skeptical response to Bigfoot, stating that skeptics routinely ridicule the subject of Bigfoot and its researchers instead of actively engaging their claims. Buhs believes that Bigfoot is not taken seriously by skeptics who are "tailors, stitching together a laughter curtain." Yet the most prominent skeptical Bigfoot researcher, the late Michael Dennett, was an unfailingly fair investigator who, even Buhs admits, treated the subject with respect and the claimants without a hint of ridicule. (Readers of this magazine are invited to review past articles on Bigfoot to see if they find the pattern of ridicule that Buhs finds so evident; the book might have been better informed about skeptics had Buhs actually interviewed any skeptics instead of relying largely on commentary by anti-CSI critics.)

Buhs himself is skeptical of Bigfoot's existence and makes it pretty clear that by the mid-1970s, Bigfoot research was imploding with little help from the skeptics. Poisoned by exposed hoaxes, arrogant and premature proclamations of conclusive evidence, and vindictive infighting—not to mention a glaring lack of scientific rigor and hard evidence—Bigfooters were becoming frustrated, and the search began coming apart at the seams. Overall, *Bigfoot: The Life and Times of a Legend* does a good job of explaining the cultural and historical context of the world's most famous monster.□

Solving a Mysterious Event from Long Ago

TERENCE HINES

The Devil of Great Island: Witchcraft and Conflict in Early New England. By Emerson W. Baker, Palgrave, Macmillan, New York, 2007. ISBN: 13-978-1-4039-7207-1. 244 pp. Hardcover, $24.95.

The Devil of Great Island was not written as a skeptical or debunking effort. Emerson Baker intended to tell the story of a seemingly isolated incident of witchcraft on a tiny island off the New Hampshire coast in 1682, which he does admirably. But the story has great relevance for a skeptical approach to historical poltergeist cases.

The story starts on Great Island on the Piscataqua River just off the coast of Portsmouth, New Hampshire, in June 1682. The residents of the home and tavern of George Walton were suddenly under attack

> when invisible assailants furiously assaulted them with a barrage of flying stones. As they ran into the tavern, the stones slammed repeatedly into the building. The noise woke Walton's sleeping family and guests, and soon a terrified household had gathered at the entry of the enclosed porch. Boarder and attorney Richard Chamberlain was one of those who observed the stones, some as big as his fist, flying onto the porch. The onslaught soon forced everyone to retreat to a more protected part of the tavern. Still they could not escape the fury. Flying rocks appeared inside the tavern and struck two boys in the legs, and Chamberlain was nearly hit in the head. Outside, the rocks continued to batter the Walton tavern, breaking windows and causing considerable damage. (Baker 7)

The "attack continued for over four hours." Stones even "came down the chimney," and "several rocks seemed to fall out of the ceiling." In the absence of any logical explanation for what they observed, the household believed it was a supernatural attack "perpetuated by the devil himself" (8).

The attacks continued for the next several months, and witchcraft was the obvious explanation.

Or was it? Baker masterfully traces the political and religious differences between the Waltons, who were Quakers, and the other island residents, who were largely Puritan. In addition to these differences, there was a long history of legal disputes, mostly involving land claims, between the Waltons and others on the island. Because of the great difficulty of establishing land claims in the late seventeenth century, with the vague specifications of boundaries (i.e., "from the large oak stump go until you reach the big rock by the stream") and the changing validity of land grants as political control changed, land disputes could, and did, drag on for decades and create serious animosity between the parties.

Baker makes it clear that the real culprits behind the stone throwing, termed "lapidary salutations" in the charming vernacular of the time, were people opposed to the Waltons either because of their endless court proceedings or their religious affiliation. There was nothing paranormal about it. But to late seventeenth-century New Hampshire folk raised and immersed in a world in which almost anything out of the ordinary was due to supernatural influences, such a

Terence Hines is a professor of psychology at Pace University, an adjunct professor of neurology at New York Medical College, and author of Pseudoscience and the Paranormal. *He is a Committee for Skeptical Inquiry scientific consultant.*

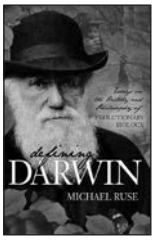
prosaic explanation likely would have been disregarded. Baker ties the events on Great Island to earlier lapidary salutations and to the later infamous Salem, Massachusetts, witch trials. His historical scholarship is first rate, delving into primary sources, such as contemporary court records, to trace the convoluted history of legal battles between the Waltons and others. I must admit, however, that at times this convoluted trail gets a bit tedious. Baker does provide a listing of "who's who" at the start of the book, without which I would have been lost.

As I said at the beginning of this review, Baker did not set out to debunk, and he never mentions anything about modern poltergeist cases like Tina Resch. For the skeptical reader, one of the most important lessons from this excellent book is that with serious scholarship and research, it is sometimes possible to provide rational explanations for long-ago events that were considered paranormal at the time. As an added bonus, it is a great story of a mystery solved. □

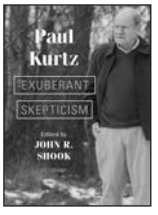
NEW BOOKS

Listing does not preclude future review.

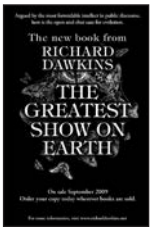
DEFINING DARWIN: Essays on the History and Philosophy of Evolutionary Biology. Michael Ruse. Prometheus Books, Amherst, New York, 2009. 271 pp. Hardcover, $26.98. These essays—some previously published, some not—have all been tried out in lecture halls by a noted philosopher of science. They concern the nature of science, objectivity versus subjectivity, and the social and moral connotations of evolution's roles in philosophy, literature, religion, and more. Ruse says Darwin's thinking made evolutionary ideas worth considering, and Darwin's own thought and what people make of it motivate Ruse in his inquiries. —K.F.



EXUBERANT SKEPTICISM. Paul Kurtz. Edited by John R. Shook. Prometheus Books, Amherst, New York, 2010. 250 pp. Softcover, $19. Philosopher Paul Kurtz is the founding father of the modern skeptical movement, and *Exuberant Skepticism* brings together in one valuable volume his most important writings charting the movement's philosophical and scientific course. Throughout, he counsels a positive and affirmative (and, yes, exuberant) skepticism, with a constructive agenda based on critical inquiry, reason, and empirical science. These influential essays range over his concerns of skepticism and rationality; skepticism and the new enlightenment; the growth of anti-science; skepticism and religion; skepticism, science, and the paranormal; skepticism and ethics; the New Skepticism; the worldwide movement of skepticism; thirty years of the SKEPTICAL INQUIRER; and his own personal involvement with skepticism. Kurtz, a very pragmatic philosopher, has elevated skeptical inquiry's philosophical and moral significance. He has likewise steadfastly advocated the appreciation of science and the application of science's methods to important questions. Every skeptic should own this book for reflective guidance. Scientists, scholars, and all thoughtful people can gain useful insight from Kurtz's uniquely optimistic outlook melding open-minded inquiry and scientific rigor. —K.F.

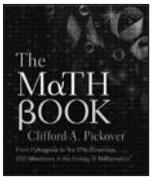


THE GREATEST SHOW ON EARTH: The Evidence for Evolution. Richard Dawkins. Free Press, New York, 2009. 470 pp. Hardcover, $30. Following his best-selling *The God Delusion*, zoologist and evolutionary biologist Dawkins returns to his scientific roots. As he says, the evidence for evolution grows day by day and has never been stronger. Yet ill-informed opposition has also never been stronger. This is his personal summary of the evidence that the "theory" of evolution is actually a fact—"as incontrovertible a fact as any in science." Here he attempts explicitly to set out the evidence for evolution, and he does so in his usual elegant and thorough way. Several core chapters convey fresh information: "Before Our Very Eyes" (about recent evidence of evolution occurring right now), "Missing Link? What Do You Mean, Missing?" (fairly self-explanatory), "Missing Persons: Missing No Longer" (on direct human ancestors), and "The Tree of Cousinship" (with its extensive section on molecular evolution). Another welcome chapter, on biogeographic distribution and plate tectonics, points out that this "solidly established theory" accounts for "numerous facts about the distribution of life on earth" and also provides "yet more evidence for the extreme antiquity of Earth." Yet creationists, for some reason, give it a pass. Dawkins reaffirms that all the "endless forms most beautiful" (Darwin's words) that we see are direct consequences of evolution by non-random natural selection, "the greatest show on Earth." It is a fine complement to Jerry A. Coyne's new book, *Why Evolution is True* (Viking 2009), which Dawkins generously praises several times. —K.F.



LINCOLN LEGENDS: Myths, Hoaxes, and Confabulations Associated with Our Greatest President. Edward Steers Jr. University Press of Kentucky, Lexington, Kentucky, 2009. 288 pp. Softcover, $17.95. No president has been the subject of more myths than Abraham Lincoln. Here a Lincoln expert examines fourteen longstanding beliefs surrounding Lincoln and, using history and primary resources, debunks them. He also tackles the conspiracy theories that sprang up in the wake of Lincoln's assassination. In dissecting the myths he examines the motives of both historic and current figures for misleading the public and demonstrates how long-perpetuated myths can be easily overturned by examining the original source. —K.F.

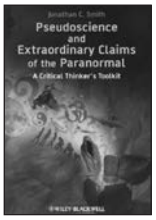
THE MATH BOOK: From Pythagoras to the 57th Dimension, 250 Milestones in the History of Mathematics. Clifford A. Pickover. Sterling Books, New York, 2009. 528 pp. Hardcover, $29.95. In *The Math Book*, prolific polymath Pickover provides plenty of puzzles, problems, and paradoxes for the public. The book describes 250 important events in the history of mathematics. Most people would probably rather read the phone book than a 530-page tome about the history of math, but Pickover's book is fascinating and accessible to both the innumerate and the numerophobic. Each two-page entry contains a few paragraphs about the topic and full-page art that illustrates the text. The entries are listed chronologically, providing historical and social context to the mathematical ideas and discoveries. This helps readers understand how mathematics, like any science, builds on itself. Entries include ancient numbering systems, paradoxes and puzzles, great mathematicians, topology, algebra, probability, prime numbers, and so on. A casual read reveals many fascinating mathematical facts, from the drill bit that cuts square holes (p. 267) to Benjamin Franklin's magic squares (p. 190). The book contains a dozen pages of references for those who wish to delve more deeply into the topics. Pickover's real achievement is revealing the beauty, logic, and elegance of mathematics in a clear and understandable way. Pickover, Martin Gardner, and others do for mathematics and logic what Carl Sagan did for astronomy. —B.R.



OUTBREAK! The Encyclopedia of Extraordinary Social Behaviors. Hilary Evans and Robert Bartholomew. Anomalist Books, New York, 2010. 784 pp. Softcover, $39.95. Hilary Evans, a British historian, and Robert Bartholomew, a sociologist in the field of collective behavior and social deviance, have compiled this eight-hundred-page tome containing nearly 350 entries on bizarre col-

lective behavior spanning the globe and several millennia. A wide variety of phenomena are explored, including alien abduction panics, India's Monkey Man hysteria, Satanism, dancing manias, school panics, phantom slashers, UFO flaps, terrorism scares, and many more. The authors write, "While some of the behaviors presented here may represent chronic forms of psychological disturbance, we believe it is essential to set each one in its own context, with regard to the unique events and circumstances of each one, which point to a particular interpretation of reality for the participants." That is, whether or not a particular behavior represents a social delusion or mass hysteria depends largely on the context and beliefs of the affected people. As the authors readily admit, the entries are only as reliable as their sources. While some of the cases were personally investigated by one or both authors, many of the accounts were drawn from newspaper and journal reports (favoring, of course, original sources). The book is accessible and interesting enough for the casual reader yet scholarly enough for the serious researcher. The encyclopedia is alphabetized, and each section concludes with dozens (or hundreds) of sources and references. Most entries are cross-referenced as well. *Outbreak!* is the most comprehensive book of its kind, invaluable to any skeptics interested in mass hysteria and collective delusions. The book makes a fine successor to Charles Mackay's classic *Extraordinary Popular Delusions and the Madness of Crowds*. —B.R.

PSEUDOSCIENCE AND EXTRAORDINARY CLAIMS OF THE PARANORMAL: A Critical Thinker's Toolkit. Jonathan C. Smith. Wiley-Blackwell, Malden, Massachusetts, 2010. 410 pp. Softcover, $39.95. Seldom does a new book appear so centrally relevant to the SKEPTICAL INQUIRER's core historic mission, with such a comprehensive and thorough treatment. Jonathan Smith, a professor of psychology at Roosevelt University, has had an enduring interest in critical thinking and examination of the paranormal for more than half a century. He founded the Roosevelt University Stress Institute largely to combat pseudoscience and quackery. He believes claims of the paranormal should be taken very seriously, not because they may be true or false but because he believes extraordinary claims have—or would have, if true—extraordinary consequences. He considers this book appropriate core reading for three types of college courses: critical thinking, research methods, and pseudoscience and the paranormal. But the critical thinking tools he offers can be used in evaluating a wide variety of claims in other areas as well. His overall goal is to "consider and apply a systematic approach for performing reality checks on paranormal claims." The toolkit begins by considering three basic questions to ask about any claim: "Is it from a credible source? Is it based on clear logic? Is it the product of good scientific observations?" He offers a useful five-chapter section on considering alternative explanations (randomness issues and numerical misconceptions, perceptual error, memory error, placebo effect, etc.). He goes on to provide guidance and insights in examining what he calls "claims of consequence, phenomena with historical, individual, social, philosophical, and political significance." These include astrology (as a "grandfather" of all manner of psychic beliefs involving prophecy and psychic readings), spiritualism and survival, parapsychology, energy treatments, the healing power of prayer, and creationism and evolution. Throughout, he counsels all to "question fearlessly and honestly." All skeptical inquirers will find this book valuable in their own quests to organize their thinking and critically examine the latest manifestations of paranormality. —K.F.

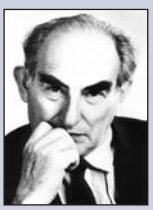


—Kendrick Frazier and Benjamin Radford

Ginzburg, Premanand

We report the loss of two extraordinary skeptics who made their mark internationally.

Vitaly L. Ginzburg, a Russian Nobel laureate physicist with the P.N. Lebedev Physical Institute, died in Moscow November 9, 2009, at the age of ninety-three.

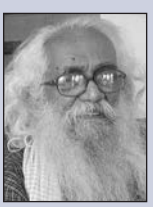


Early in his career he worked with Andrei Sakharov to help develop the first Soviet hydrogen bomb. He eventually became one of the world's most renowned physicists, sharing the Nobel Prize in 1993 for a theory that explained in detail important questions about superconductivity. In recent years he spoke out in support and defense of science, warning of the increasing degradation of science in Russia, "the increased clericalization of Russian society," and the advance of pseudoscience. He published two articles in the January/February 2005 SKEPTICAL INQUIRER about the dangers of pseudoscience in Russia, "Demagogues Against Scientific Expertise" and "Brave Thoughts Are Still Not the Truth."

"I knew Vitaly Ginzburg well and saw him on six of my last seven trips to Russia," Paul Kurtz, founder of the Committee for Skeptical Inquiry and the Center for Inquiry, told SI. "He was a strong supporter of CFI/Russia and indeed donated part of his Nobel Prize money to the organization. He was a member of Russia's prestigious Academy of Science, and got them to support *Common Sense*, published by CFI/Russia. He also helped establish the anti-pseudoscience efforts of the Academy and CFI/Russia. He will be sorely missed."

* * *

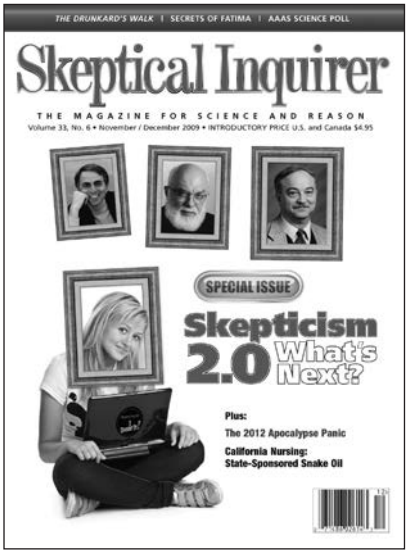
Basava Premanand (usually just called Premanand), the famed Indian skeptic and scourge of India's "god men," died October 4, 2009, in Podanur, India, at the age of seventy-nine. A magician, leader of the India skeptics, editor of the monthly *Indian Skeptic*, and author of thirty-five books, Premanand devoted his life to the investigation of supernatural claims in India and exposing tricksters wherever he found them. Indian fakirs and gurus were his special target, and Premanand delighted in showing how their supposed feats could be duplicated using known (not supernatural) methods. Fire-eating, tongue piercing, and other dramatic feats enlivened his demonstrations.



SKEPTICAL INQUIRER Editor Kendrick Frazier fondly recalls a time when Premanand, on a speaking tour through the U.S., stayed several nights at his home in Albuquerque. "It was Thanksgiving, and toward the end of the Thanksgiving dinner, Premanand got up and amazed us all with his demonstrations. It is a Thanksgiving our family will never forget."

Massimo Polidoro's "Notes on a Strange World" column "Don't Try This at Home" (SI, January/February 2003) recounted hours he and colleague Luigi Garlaschelli spent talking with Premanand during one of his trips to Italy. "Have you ever seen a miracle?" they asked. His response: "I've seen a lot, but unfortunately not one of them was authentic; they were all accomplished by trickery."

On his deathbed, dying of stomach cancer, Premanand reaffirmed his commitment to rationalism. In a written and signed statement, he noted that "it is common for the purveyors of superstitions and such anti-rational forces to start spreading rumors" at the end of a rationalist's life. "I continue to be a rationalist of full conviction. I do not believe in supernatural powers. All the powers that we encounter are in the realm of nature," he said in the statement.


THE DRUNKARD'S WALK | SECRETS OF FATIMA | AAAS SCIENCE POLL
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SPECIAL ISSUE
Skepticism 2.0 What's Next?
Plus:
The 2012 Apocalypse Panic
California Nursing: State-Sponsored Snake Oil

Skepticism 2.0: A Special Issue

Congratulations on a bold, brilliant issue of SI: "Skepticism 2.0: What's Next?" (November/December 2009). It was great to see people from different organizations coming together to give the clearest possible view of what is happening to skepticism. All skeptics should read through these articles and consider where they belong in the new movement.

Daniel Loxton is surely right to say that the prospects for the new version of skepticism are far greater than the problems. Still, two questions concern me about the future. First, if skepticism is becoming a decentralized network movement, how do we ensure that all paranormal claims receive due investigation? Could "black holes" of paranormal claims develop that are harming people's lives yet are overlooked by the new movement? Second, how do we ensure that skepticism retains its essential meaning in a large, diffused network of this kind?

Still, the future looks positive, and I thank SI and the team of writers for a terrific issue.

Martin Bridgstock
Griffith University
Queensland, Australia

Having just read the November/December issue of SI, I must say that I look forward to Skepticism 2.0 about as much as I did to discovering the differences between Windows 3.0 and Windows 3.1. I recognize that I am speaking from the perspective of a person who has lived more than three-quarters of a century on this planet, but all the same I could hardly be enthralled by the prospect of receiving a text message that read, "OMG!!! U R A SKEPTIC!!! AWESOME!!!" Since I don't even have a cell phone, let alone a Blackberry, this won't happen. I fully realize that serious devices such as computers, mine included, are often used for frivolous purposes. Still it is difficult for me to envision serious scientific investigations being bandied about on cell phones and YouTube.

I am also concerned about quality. There is no law that states that the product of quantity and quality is a constant, but it often works that way, alas. I thus can only be concerned that so-called skeptical investigations will be half-baked and injurious to the health of the skeptical movement. Scientific investigations are able to dispel rumor and hoax because they are conducted with an eye to discover fact and (an important *and*) they are done by people who possess the necessary qualifications. Anything less than this standard will result in a weakening of the entire skeptical movement.

Jerry F. O'Donnell
Artesia, New Mexico

I have read with considerable interest the November/December SI, devoted primarily to finding new ways of spreading critical thinking and the skeptical viewpoint to the younger generation—Skepticism 2.0. As a "senior citizen," I have acquired some skill in the use of e-mail and the Internet, but some of the newer "networking" methods are a bit beyond me. However, I am sending a copy of this issue to my daughter, who is professionally trained in higher education planning and is familiar with the use of the newer communications technologies.

The SKEPTICAL INQUIRER started out with the "scientific investigation of the paranormal" but has expanded its field to include various pseudosciences, cryptozoology, UFOs, and creationism, and more recently it has ventured into more boldly questioning religious beliefs. Although many of these are interesting examples of unnatural and unscientific thinking, there are other areas affecting our lives and pocketbooks that need to be examined with critical thinking. Some that come to mind are the marketplace, the Internet, TV, advertising, newspapers, law, and politics. In addition to outright scams, such as the Nigerian scam and phishing in e-mail, there are many subtle deceptions in merchandising: the placement of items in grocery stores, slack-filled containers, and sales pricing that leaves a buyer with an unclear perception of the worth of items.

The other day my wife came across a program on the A&E channel called *Extreme Paranormal*. Perhaps we need to counter that with a program called *Extreme Skeptic*!

David W. Briggs
dwbrgs@yahoo.com

Heidi Anderson's article "Skeptical Parenting: Raising Young Critical Thinkers" should raise a red flag for skeptics. In discussing the decision to have children, she quotes a skeptic who "admits that choosing to have a child was a 'bit of a leap of faith,' an approach foreign to many skeptics." She goes on to list reasons for remaining childless.

She's not wrong. Here are two testable assumptions: the number of children a family has is inversely proportionate to the combined education of the parents; and the more education, the higher probability of rational thinking. If these two assumptions are true, it is not the meek but the ignorant who will inherit the earth.

Why is it that skeptics don't get the connection? Religions that tend to be anti-evolution are very strong on procreation. The resulting baby boom is dominated by children of believers and people with less education. It appears that Dawkins's "selfish gene" has attached itself to whatever it is in the human psyche that wants to believe. And those who manage the business of religion have been quick to recognize and embrace this symbiosis.

The evolutionary bottom line is that winners are chosen by natural selection and the selection mechanism is procreation. Skeptics need to take their libido out of the deep freeze and get busy growing the base.

Robert D. Veitch
Minneapolis, Minnesota

D.J. Grothe rightly acknowledges that his roundup of skeptical podcasts is "hardly comprehensive," as no such article could be. I was disappointed, however, to discover that the piece contained listings for podcasts that ceased production years ago, while failing to include the current, popular, and outstanding *Reasonable Doubts*.

Billing itself as "Your Skeptical Guide to Religion" and produced by professors Jeremy Beahan, Luke Galen, and David Fletcher out of Grand Rapids, Michigan, this polished and wildly entertaining one-hour podcast features news, clever banter, analysis and dis-

section of religious topics, and interviews with leading lights of the skeptic and atheist movements.

My first thought was, as improbable as it seemed, that Mr. Grothe must not be aware of the existence of this podcast, which could be seen as a competitor to his own excellent *Point of Inquiry*. Imagine my surprise, then, when I discovered who the featured speaker is on this week's episode of *Reasonable Doubts*: none other than D.J. Grothe!

Glenn Davis
Lewis Center, Ohio

Though I am one of the faithful—I've been subscribing since 1978—I worry that Skepticism 2.0 will follow 1.0 down the tubes. Your November/December 2009 issue ignores the following:

1. Superstition in the West has mushroomed on your watch, relative to skepticism. Your optimistic tone denies our abject failure, so far.

2. You cannot gain authority by proving your point—supported by the market, the hordes of unreason simply ignore logic.

3. Disciplined thought is at the heart of skepticism, yet the Internet encourages the reverse: anonymous comment free of consequences, however unqualified, insincere, or lying it may be. An uncensored Internet allows unreason to bury skepticism even further.

Duncan M. Butlin
Chichester, West Sussex
United Kingdom

Thank you for citing The Panda's Thumb in Blake Smith's article "Surfing for Skeptics." PT is an independent blog that is devoted primarily to evolution and is not connected with Science Blogs. You may read Panda's Thumb at www.pandasthumb.org.

Matt Young
Boulder, Colorado

The Lunar Landing Deniers

David Morrison ("Moon Hoax Resolved: New Lunar Orbiter Images Show Moon Landers, Astronauts' Tracks," News and Comment, November/December 2009) seems to be stunningly naïve about what will "convince most remaining doubters" about the Apollo Moon landings. If the doubters are willing to entertain the idea that thousands of people are still actively covering up their involvement in faking live television broadcasts from the Moon, will a bunch of easily Photoshopped pictures of the alleged landing sites from a satellite be at all convincing?

I predict that the doubters will follow James Randi's argument against Uri Geller by saying something like, "We were able to make an image that looks just like the LRO image in five minutes through trickery, so why should we believe that NASA did it for real?"

Personally, I think the LRO images of the Apollo landing sites are wonderful, but the idea that they will convince even a single doubter in this age of easy, at-home photo manipulation seems to be the result of an idealism that's been proven wildly unrealistic by claims that the hoax believers have been making for decades already.

Dave Weiblen
Centreville, Virginia

David Morrison responds:

The point is well taken, and perhaps I am naïve. Following the argument to the extreme, even if we sent a new group of astronauts to take photos and collect artifacts at one of the Apollo sites, the hardcore conspiracy theorists would claim that expedition was also faked, and so on ad infinitum. A more realistic target are the millions of young people from outside the U.S., like many Indian college students I have met, who have been told their whole lives that Apollo was faked and have never heard the counterarguments. I still have faith that they might respond to these Lunar Reconnaissance Orbiter photos.

The Prevalence of Pseudoscience

I've renewed my subscription to your wonderful SKEPTICAL INQUIRER.

I am truly disheartened by the proliferation and overwhelming amount of pseudoscience in all media, particularly the Discovery Channel. It amazes me that, despite your efforts, the American people are still so misinformed on matters of science. There seems to be no credible "news" organization attempting to correct the situation, which to me seems to be worsening not only regarding science but all fields of learning and public issues.

Willard Whitmon
Bourbonnais, Illinois

The 'Walking Tree'

Regarding Benjamin Radford's "Skeptical Inquiree" column "The Myth of the Walking Tree" (SI, November/December 2009): The quotation from "no less an authoritative source than Wikipedia" is true but dated. The quoted text was removed from the Wikipedia article ("*Socratea exorrhiza*") on August 2 by an editor who was expanding the article. And on October 23, another editor added (and cited) information from Radford's article about the myth to that Wikipedia article.

John Broughton
Alexandria, VA

Moral Duty of the Skeptic?

Massimo Pigliucci's column "The Moral Duty of a Skeptic" (SI, November/December 2009) briefly touches on the notion that it can be difficult to talk about moral duty without engaging in a discussion regarding the existence (or nonexistence) of moral facts. However, he merely makes mention of this idea and then moves on. I think this is a tremendously worthwhile exercise that he dismisses or at least glosses over (perhaps due to space constraints?). But skeptics, being empiricists, are often quite interested in whether or not things really exist. Like ghosts or gods, I maintain that moral facts or imperatives do not exist outside of human thought (though I am open to empirical evidence that they do). To claim that skeptics have a moral duty to do anything (his words, "the morally right thing to do") is no more founded in reality than saying people have a moral duty to not work on Sundays. It is a declaration that something is true, yet where is the basis in reality that skeptics are so fond of? What evidence is there that something is right to do? How is it measured or observed? Skeptics wouldn't accept on its face the claim that ghosts exist. They would ask, "What is the evidence that supports that claim?" So why accept the claim that something is the right thing to do? I say it is an unsubstantiated claim.

Further, I say it is useful to pay attention to this because the world is filled with claims of what the right thing to do is. One group says x is the right thing to do, and another says x is the wrong thing to do. Both make claims, but who offers empirical evidence of rightness? How does one even demonstrate that something is the right thing to do? We

may offer anticipated consequences as evidence, which is essentially what Dr. Pigliucci does, but those consequences are judged subjectively as to their desirability by the observer, which varies according to the particular needs or tastes of any observer.

Also, creating a collection of stories in which credulity harms the believer is a recipe for confirmation bias (something skeptics like to avoid). It may support the call to action of a moral duty or provide evidence of claimed harm, but if one were to approach the question scientifically, one would examine all instances of belief and consider all outcomes. It may very well be that belief in the supernatural results in consequences that observers (including skeptics) deem to be positive when taken in totality. Still, the observer is judging subjectively based upon what he or she finds desirable. . . . We don't tolerate collections of examples as impressive evidence when it is an anti-vaccination activist offering stories of alleged harm. Nor are we impressed when anti-vaccination activists concentrate almost exclusively on adverse events, while downplaying or ignoring altogether the benefits. Scientists and skeptics know a way that is more valid.

David Kessler, PhD
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Massimo Pigliucci responds:

Dr. Kessler raises important points that could not have been addressed in my column for the simple reason that I had to take ethics as a discipline to be a background condition for my discussion of what I see as the moral duty of skeptics. Indeed, fully addressing Kessler's points would require nothing less than a full immersion into ethical theory, a large philosophical literature that has developed over centuries. Nevertheless, let me briefly comment on some pertinent issues.

Kessler wishes to engage in a discussion over the existence or nonexistence of "moral facts," suggesting a parallel with the skeptical/empiricist demand for facts about, say, ghosts or gods. This betrays a misunderstanding of what moral "facts" are about. If most philosophers are correct in deeming morality a nonarbitrary discipline, it is certainly not because there is empirical evidence for moral facts. In this sense, moral rules may be more akin to logical propositions or mathematical theorems. Last time I checked nobody asked for "empirical" evidence of the existence of numbers or logical operators. Moral judgments are arrived at—in ethical philosophy—by reason, not by observation. Moral reasoning is based on certain assumptions about what is good for human beings (and other relevantly similar sentient species), just like mathematical theorems are based on axioms from which they get started. And since in mathematics or logic one cannot actually prove the axioms from within the system (Godel's incompleteness theorem), we should not be unduly bothered by the fact that ethicists also have to get started with certain assumptions about what it means to be human.

Indeed, some of these assumptions can be checked empirically by way of what biology and social science tell us about the sort of animal that Homo sapiens *is. In addition, evolutionary biology and game theory, respectively, are beginning to tell us why a moral sense evolved in primates (can't have a social group of large-brained animals that behave entirely selfishly) and which moral rules may or may not reach a stable equilibrium within a population of individuals characterized by certain physical and social constraints. These two disciplines therefore ground the basics (though not the more sophisticated forms) of moral reasoning in empirical evidence and theoretical formalism, thus going some of the way toward satisfying Kessler's request for evidence.*

Moreover, it is simply very difficult for me to believe that moral skeptics like Dr. Kessler actually believe what they say because if they really thought morality is entirely arbitrary, they themselves would have no guidance in their dealings with other human beings. While I do not know Kessler personally, I am acquainted with a number of self-professed moral skeptics who nonetheless seem to live their lives according to a remarkably commonplace set of ethical rules. This reminds me of a quip by Bertrand Russell, who wished that all those people who do not believe in physical reality (another category of ultra-skeptics) would get into a car and drive straight into a wall at a speed proportional to their disbelief in the physical existence of said wall.

Finally, about the value of anecdotal evidence concerning the harm of superstition: While social studies of such harm are surely needed (and they will become available due to the newfound interest by social scientists in religion and superstition as empirical phenomena), I think it is fair to ask what sort of benefits can possibly outweigh the sort of lies that have demonstrably caused psychological damage, killed individuals, and in some cases provided an excuse for mass violence (think of the persecution of "witches" in modern parts of Africa, for instance). More important, Kessler himself is (I assume unwittingly) adopting a particular ethical theory—consequentialism, otherwise known as utilitarianism—as the basis of his request for weighing the evidence before making moral choices. Since I subscribe to a virtue ethics view of the world instead, I think that living an irrational life and believing in falsehoods hampers human flourishing. The debate then would turn toward the relative merits of utilitarianism and virtue ethics, yet that debate would not be empirical but rather philosophical in nature.

Write to

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HIDDEN MESSAGES by Dave Thomas

The following letters are a simple substitution cipher. If R stands for L, it will do so everywhere. Solution is by trial and error. Hint: Look for patterns in words; for example, the scrambled phrase "JRXJ JRQ" might represent "THAT THE."

PUZZLE

"EBCDI CZ KCR OBC XIFGIUI GM EIFIHGMIDGD, TQGDI PK BQML."

—QPITGVQM OTGEIT HRTE UCMMIARE

CLUE: X = B

ANSWER KEY

As you decipher letters, keep track of them with the handy answer key below. If you've decided that R stands for L, simply write down an "L" above or below the "R" in the alphabetized row below, just as you would for the cipher itself. This builds a handy, easy-to-use reference guide for you and will also reveal the "Super Secret Word," a puzzle within a puzzle!

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

PREVIOUS PUZZLE SOLUTION: *"AND WHAT GREATER MIGHT DO WE POSSESS AS HUMAN BEINGS THAN OUR CAPACITY TO QUESTION AND TO LEARN?"*

— ANN DRUYAN

SUPER-SECRET WORD: TRIUMPHAL

"You are completely free to carry out whatever research you want, so long as you come to these conclusions."

Ask The Outlaw Skeptic

Hey Outlaw,

My dear, old mother spends her hard-earned retirement money on the state lottery every week. Not only that, but she wastes additional money each week by going to a psychic, who picks the numbers for her. Can psychics pick winning lottery numbers or is Mom wasting our dough?

—Losing My Inheritance

Dear Losing,

You might find this strange coming from a skeptic, even an "outlaw" skeptic, but I'm a firm believer that psychics can pick winning state lottery numbers, even though their odds of picking the winning numbers are 18 million to one. Good luck, Loser . . . I mean Losing.

Announcing the Skeptical Inquirer puzzle contest!

The Skeptical Inquirer proudly announces a puzzle contest, for those smart enough to solve CSI Fellow Dave Thomas's Hidden Messages puzzles in "The Last Laugh" section of the Skeptical Inquirer.

The winner will be chosen randomly from the first three correct submissions received. Photocopied entries of the correct solution should be sent by postal mail to:

Benjamin Radford, The Last Laugh, P.O. Box 3016, Corrales NM 87048.

CSI is not responsible for late or misdirected mail, etc.

This issue's prize is an autographed copy of skeptic musician George Hrab's CD "Coelacanth." For more on Geo's music, visit www.geologicrecords.net.

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